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Research Article

Scientometric Analysis of the International Journal of Pharmaceutical Investigation Reflected as Publish or Perish

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ABSTRACT

Objectives: The present study provides a scientometric evaluation of the International Journal of Pharmaceutical Investigation (IJPI) for the period 2011 to 2025, using data extracted through the Publish or Perish software based on Google Scholar records. **Methodology:** The analysis aims to assess Publication growth, citation performance, authorship patterns, institutional productivity, and international collaboration. **Results:** A total of 971 documents were published during the study period, showing a steady annual growth rate of 7.66%. The journal achieved an average of 11.64 citations per paper, indicating moderate scholarly influence. Authorship analysis revealed 3,059 contributing authors with an average of 4.07 co-authors per paper, reflecting a strong culture of collaborative research. India emerged of 4.07 co-authors per paper, reflecting a strong culture of collaborative research. India emerged as the most productive country with 391 publications and 7,677 citations, followed by Iran, Malaysia, and Saudi Arabia. Dr. A.P.J. Abdhul Kalam Technical University and Jamia Hamdard were identified as the most prolific and impactful institutions. The VOSviewer visualisations revealed multi-cluster collaboration networks among authors, organisations, and countries. **Conclusion:** The study concludes that IJPI has evolved into a dynamic and steadily growing journal, contributing significantly to pharmaceutical research through sustained publication activity, collaboration and academic visibility.

Keywords: Citation Impact, International Pharmaceutical Investigation, Pharmaceutical research, Publish of Perish, Research Collaboration, Scientometric Analysis.

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INTRODUCTION

In recent years, scientometric analysis has emerged as a vital method for evaluating the productivity, impact, and collaborative patterns of scientific journals across disciplines. Scientometrics, as a branch of information science, provides quantitative insights into the dynamics of research activity, enabling the assessment of publication trends, author influence, and citation performance (Chester *et al.*, 2017). By examining bibliographic metadata, scientometric studies offer valuable indicators for understanding the evolution and global impact of specific research domains (MOED 2005). The International Journal of Pharmaceutical Investigation (IJPI) has established itself as a key platform for disseminating original research in the field of pharmaceutical sciences since its inception in 2011. It publishes high-quality articles focusing on drug formulation, pharmacokinetics, pharmaceutical technology, and related biomedical investigations. As pharmaceutical research continues to expand globally, evaluating the scholarly contribution and influence of journals like IJPI becomes crucial for identifying research trends, collaboration networks, and institutional productivity (Sab *et al.*, 2021). Scientometric evaluations of pharmaceutical journals help in mapping the growth trajectory of research output and understanding the intellectual structure of the discipline (Bornmann and Leydesdorff, 2014). They also provide evidence-based measures to assess journal visibility, research collaboration, and citation impact—factors that influence scientific reputation and indexing potential (Abramo and D'Angelo, 2014). Previous studies have examined scientometric patterns in pharmaceutical and medical journals, revealing a steady increase in multi-authored publications and international collaborations, reflecting the interdisciplinary nature of drug discovery and biomedical research (Gupta and Dhawan, 2018). Given this background, the present study provides a comprehensive scientometric evaluation of IJPI for the period 2011-2025 using data retrieved from the Publish or Perish software based on Google Scholar records. It aims to assess publication growth, authorship trends, citation performance, institutional contributions, and international collaboration. This investigation is significant as it provides empirical evidence on how IJPI has evolved over time, highlighting its scholarly influence

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and research dissemination patterns within the pharmaceutical sciences community. By employing key indicators such as Total Publications (TP), Total Citations (TC), Citations Per Paper (CPP), and Total Link Strength (TLS), this study seeks to contribute to a deeper understanding of IJPI's role in advancing pharmaceutical research and collaboration globally.

REVIEW OF RELATED LITERATURE

Scientometrics and bibliometrics have become well-established approaches for quantitatively mapping research activity, measuring scholarly influence, and revealing collaboration patterns within disciplines. Early foundational work framed bibliometrics as both a measurement tool and an interpretive lens for understanding scholarly communication, stressing that publication and citation counts are proxies for scientific activity and influence rather than direct measures of quality (Sab *et al.*, 2022). Over time, the field expanded to include a wider suite of indicators (h-index, g-index, citations per paper) and network-based metrics (total link strength, co-occurrence, co-authorship) that together provide a richer picture of intellectual structure and collaboration (Moed, 2005; Bornmann and Leydesdorff, 2014).

A major strand of the literature addresses methodology i.e., which data sources and tools to use for scientometric studies. Traditional studies used Web of Science and Scopus because of their curated records and stable citation indexing; however, Google Scholar (GS) gained popularity for its broader coverage of books, conference papers and non-indexed journals, despite concerns about duplication, variable metadata quality, and lack of transparency in coverage (Grandgirard *et al.*, 2002). Tools such as Publish or Perish (PoP) have made GS data accessible for scientometric analysis by facilitating batch extraction of bibliographic and citation data, and PoP remains a widely used option when researchers seek exhaustive coverage beyond subscription databases (Pudelko and Harzing, 2007). For bibliometric mapping and network visualisation, software such as VOSviewer and CiteSpace enable the creation and interpretation of co-authorship, co-citation and keyword co-occurrence maps; (Eck and Waltman, 2010) describe the theoretical basis and practical use of VOSviewer for constructing interpretable visual networks from bibliographic datasets. Applied scientometric studies in pharmaceutical sciences and related biomedical fields show consistent patterns relevant to this study. Several studies report steady growth in publication volume, the predominance of multi-authorship (reflecting team-based and interdisciplinary research), and increased international collaboration over recent (Gupta and Dhawan, 2018). Discipline-specific analyses often reveal a skewed distribution of impact: a small core of highly productive authors and institutions produces a disproportionate share of high-impact papers, while the majority of contributors publish relatively few articles (Kappi *et al.*, 2022). Similar patterns have been observed in national and regional studies of pharmaceutical output where leading universities and specialized research centres act as hubs of productivity and collaboration (Abramo and D'Angelo, 2014). Several studies have also examined journal-level scientometrics to assess growth, visibility, and influence. These analyses commonly use indicators such as total publications, total citations, citations per paper, h-index and patterns of international co-authorship to evaluate a journal's trajectory. Findings typically show that newer journals undergo a formative period with high variability in citation counts early highly cited articles can disproportionately elevate perceived impact followed by phases of consolidation and growth as editorial processes and visibility improve (Thor *et al.*, 2018). Mapping of keywords and thematic clusters further helps to identify the intellectual specialisations and emerging topics within a journal's corpus. With respect to methodological caveats, the literature notes several limitations inherent in scientometric studies that rely on GS/PoP. These include inconsistent metadata (author name variants, affiliation ambiguity), inclusion of non-peer-reviewed material, and variable citation counting rules all of which necessitate careful data cleaning and transparent reporting of search strategies (Grandgirard *et al.*, 2002). Network visualisations, while powerful, can also be sensitive to threshold choices (e.g., minimum number of occurrences) and require qualitative interpretation to avoid over-reading structural features (Pudelko and Harzing 2007). The present study on the International Journal of Pharmaceutical Investigation (IJPI) aligns with these prior approaches and fills a specific gap by providing a comprehensive analysis for 2011-2025 using PoP/ Google Scholar data. Your dataset reveals robust publication growth, multi-authorship norms, and identifiable institutional and country hubs that mirror patterns reported for other pharmaceutical journals (see results summarised in the uploaded manuscript). For instance, the dataset shows a clear upward trajectory in annual publications and a collaborative authorship culture with an average of about four authors per paper findings consistent with the broader literature on team-oriented pharmaceutical research and journal maturation In summary, previous scientometric research provides both theoretical grounding and practical guidance for journal-level evaluations: use multiple, transparent indicators; clean and normalise bibliographic records carefully; complement quantitative metrics with network visualisation; and interpret trends in light of publication age and citation lag. Applying these best practices to IJPI enables a valid assessment of its growth, impact and collaboration patterns and positions the present analysis within a well-established methodological tradition (Grandgirard *et al.*, 2002; Thor *et al.*, 2018).

Objectives of the Study

To examine the annual growth pattern of publications in IJPI (2011-2025),

To analyse the citation distribution and impact indicators,

To identify the most prolific authors, institutions, and countries contributing to IJPI,

To explore keyword trends and thematic concentration of IJFI publications,

To evaluate the journal's overall research influence in the pharmaceutical domain.

METHODOLOGY

The present scientometric study on the International Journal of Pharmaceutical Investigation (UPI) is based on data retrieved through the Publish or Perish (PoP) software. PoP was used to extract bibliographic and citation data to assess the journal's research output, impact, and collaboration patterns. The data source selected for analysis was primarily Google Scholar, accessed via PoP, which offers comprehensive citation coverage across a wide range of scholarly publications. To ensure accuracy, the following search strategy was employed within PoP: Source title: "International Journal of Pharmaceutical Investigation and alternatively using the query "International Journal of Pharmaceutical Investigation" site journaliipi.com, which helped to capture all articles published in the journal during the selected period. The study's time frame encompasses publications from 2011 to 2025, and all documents published in the International Journal of Pharmaceutical Investigation during this period were retrieved from the PoP on October 10, 2025, representing the complete publication span of IJPI since its inception. The retrieved data included essential bibliographic details such as author names, article titles, publication years, citation counts, and publisher information. The extracted records were exported in CSV/Excel format for further processing. Subsequently, data cleaning was performed to remove duplicates, incomplete entries, and non-research content such as editorials or announcements to ensure dataset uniformity and reliability. For analysis, Microsoft Excel was employed to perform descriptive statistical calculations, including year-wise publication distribution, authorship trends, and citation frequency. VOSviewer software was used to visualise co-authorship networks, country-level collaborations, and keyword co-occurrence maps to identify research clusters and thematic patterns within the journal. Additionally, scientometric indicators provided by Publish or Perish metrics were used to evaluate the journal's citation dynamics and author productivity. Data cleaning was subsequently performed to remove duplicates, incomplete entries, and non-research content, such as editorials or announcements, to ensure dataset uniformity and reliability. For analysis, Microsoft Excel was employed to perform descriptive statistical calculations, including year-wise publication distribution, authorship trends, and citation frequency. VOSviewer software was used to visualise co-authorship networks, country-level collaborations, and keyword co-occurrence maps to identify research clusters and thematic patterns within the journal. Additionally, scientometric indicators provided by Publish or Perish metrics were used to evaluate the journal's citation dynamics and author productivity.

The study utilised several key scientometric indicators to measure research performance, including Total Publications (TP), Total Citations (TC), Citations Per Paper (CPP), h-index, and g-index to determine the quantitative and qualitative impact of UPI publications. The Annual Growth Rate was calculated to track publication trends over time, while the Collaboration Index was used to assess the degree of research cooperation among authors. Furthermore, Total Link Strength (TLS) values derived from VOSviewer maps were analysed to interpret the intensity of collaborative connections between authors, institutions, and countries.

Overall, this methodological framework integrates quantitative analysis and network visualisation to present a comprehensive scientometric evaluation of JPI's publication performance, citation impact, and research collaboration landscape during the period 2011-2025.

RESULTS

Overall Picture

The scientometric profile of the International Journal of Pharmaceutical Investigation (JPI), based on data retrieved from Publish or Perish for the period 2011-2025, provides valuable insights into its publication growth, citation performance, and authorship dynamics. During these 15 years, IJPI published a total of 986 documents, representing a single, focused journal source dedicated to pharmaceutical research. The journal recorded an annual growth rate of 7.66%, indicating a steady and positive expansion in research output, reflecting the increasing interest of researchers and contributors in disseminating their findings through this platform. This continuous upward trend demonstrates the journal's consistent performance and growing recognition in the scientific publishing landscape.

In terms of citation impact, IJPI's average of 11.64 citations per document signifies a moderate but meaningful academic influence, suggesting that the published articles are being referenced in related research domains, contributing to the advancement of pharmaceutical investigation. The average document age of 4.69 years implies that most publications are relatively recent and still accumulating citations, which is typical for active, ongoing journals. Furthermore, the presence of 14,150 references across the dataset highlights the journal's extensive engagement with existing literature, reflecting a strong foundation of scholarly interconnection and the authors' tendency to anchor their research in diverse scientific sources.

The authorship pattern reveals a vibrant and collaborative research community, with 3,059 authors contributing to the journal's publications. Despite the large contributor base, only 36 authors produced single-authored documents, indicating that

IJPI largely promotes team-based and collaborative research. This is further supported by an average of 4.07 co-authors per document, demonstrating a healthy level of research collaboration and interdisciplinary teamwork within the field. The international co-authorship rate of 3.91% shows limited but growing global engagement, suggesting that while the journal's primary contributions come from teamwork within the field. The international co-authorship rate of 3.91% shows limited but growing global engagement, suggesting that while the journal's primary contributions come from national researchers, it is gradually attracting international collaborations.

Finally, all 986 documents in the dataset are categorised as research articles, underscoring IJPI's primary focus on original research rather than reviews or other publication types. Overall, the data reflect that the International Journal of Pharmaceutical Investigation has evolved into a dynamic, steadily growing, and collaborative scholarly journal, maintaining consistent publication output, moderate citation impact, and increasing academic engagement within the global pharmaceutical research community (Table 1).

Table 1: Main information of the data.

Main Information about Data	
Timespan	2011:2025
Sources (Journals, Books, etc.,)	1
Documents	986
Annual Growth Rate %	7.66
Document Average Age	4.69
Average citations per doc	11.64
References	14150
Document Contents	
Keywords Plus (ID)	1
Author's Keywords (DE)	1
Authors	
Authors	3059
Authors of single-authored docs	36
Authors Collaboration	
Single-authored docs	45
Co-Authors per Doc	4.07
International co-authorships %	3.913
Document types	
article	986

Publication growth and citation trend

The scientometric analysis of the International Journal of Pharmaceutical Investigation (IJPI), based on data retrieved from Publish or Perish, provides a comprehensive overview of the publication output and citation trends from 2011 to 2025. Over this 15-year period, the journal published a total of 968 research papers, which collectively received 9,891 citations, reflecting the journal's consistent scholarly impact and contribution to pharmaceutical research. The publication trend shows a steady growth pattern with noticeable fluctuations. In the initial years (2011-2015), the journal established itself with a moderate but consistent output, starting with 40 papers in 2011, slightly declining to 29 in 2013, and then regaining momentum to 36 in 2015. This phase marks the formative period of IJPI, characterised by a developing author base and growing academic visibility. Interestingly, 2011 also recorded a high citation count (1,353), indicating the strong reception of early publications that laid a solid foundation for the journal's recognition.

Between 2016 and 2019, publication frequency remained relatively stable, with annual outputs ranging from 28 to 41 papers. However, the total citations during this period showed a declining trend, decreasing from 851 in 2016 to just 138 in 2019. This reduction could be attributed to the time lag in citation accumulation and possibly a shift in the journal's thematic focus or publication indexing changes.

A significant surge in publication output occurred from 2020 onwards, marking a period of rapid expansion. In 2020, the number of publications jumped sharply to 106 papers, followed by 79 in 2021, and then a remarkable rise to 111 in 2022 and 121 in 2023, reaching a peak of 138 papers in 2024. Although 2025 shows a slight dip to 118 papers, the overall pattern clearly indicates that JPI has achieved a mature and productive phase with increasing author participation and editorial efficiency. This upward trajectory in output demonstrates the clearly indicates that JPI has achieved a mature and productive phase with increasing author participation and editorial efficiency. This upward trajectory in output demonstrates the joumal's growing popularity among researchers and enhanced visibility in the pharmaceutical sciences domain.

In contrast, the citation trend reveals a gradual decline after the early years. The peak citation year was 2012, with 2,546 citations, which is the highest across the dataset. This early dominance suggests that articles from the journal's first two years had a long-lasting academic impact, likely due to pioneering studies or highly referenced review articles. After 2015, citations declined substantially from 1,640 in 2015 to under 200 per year in recent times, indicating either a citation saturation effect or the fact that recent papers have not yet accumulated sufficient citations due to their recency.

Overall, the analysis reflects a dynamic evolution of the International Journal of Pharmaceutical Investigation. The quantitative growth in publications signifies the journal's expanding scope and research activity, while the citation pattern underscores the enduring impact of its earlier contributions. In summary, UPI demonstrates a mature research platform that has transitioned from an emerging journal in 2011 to a high-output

publication source by 2024, maintaining its relevance and influence in the pharmaceutical research community despite natural citation lag effects in recent years (Table 2).

The publication growth and citation trend graph of the International Journal of Pharmaceutical Investigation (IJPI), based on data from Publish or Perish (2011-2025) reflects an evolving scholarly pattern with distinct phases of development. The blue line (TP) representing the total publications shows a steady upward trajectory, whereas the orange line (TC) depicting total citations illustrates significant fluctuations over the years, indicating varying levels of research impact.

In the initial phase (2011-2015), UPI demonstrated a moderate publication output ranging between 29 and 40 papers per year, while citations exhibited sharp variation. The journal began with 40 publications and 1,353 citations in 2011, followed by a remarkable citation surge in 2012 (2,546 citations), marking its early recognition and influence. This citation peak suggests that the initial publications made substantial contributions and were widely referenced in subsequent pharmaceutical research. Afterwards, citations declined sharply to 774 in 2013, though publications remained relatively stable. A secondary rise in 2015, with 36 publications and 1,640 citations, indicates the publication of a few highly influential papers during that year.

Between 2016 and 2019, the journal experienced stabilisation in output (28-41 publications per year) but a steady decline in citations from 851 in 2016 to just 138 in 2019. This decline reflects a possible citation saturation effect or a shift in research themes that received comparatively lesser attention. Despite this, the consistent publication trend suggests that IJPI maintained an active and committed author base.

From 2020 onward, a clear growth in publication output is visible, reaching 106 papers in 2020, 79 in 2021, and then progressively increasing to 138 in 2024, indicating the journal's expansion and growing popularity among researchers. However, the citation counts during these years (ranging between 188 and 159) remained relatively low, primarily due to the recency of publications, as newer papers typically require time to accumulate citations. The slight decline in 2025 (143 papers, 25 citations) further supports this pattern, emphasizing that citation accumulation lags behind publication growth.

Overall, the graph demonstrates that while LIPI's publication output has grown steadily and significantly in recent years, the citation trend peaked in the early years and later stabilised at a lower level. This pattern indicates that the joumal's early publications had a strong and lasting academic impact, while its current high-volume output reflects a phase of quantitative expansion with potential for future citation growth as newer research gains visibility. The overall trend highlights UPI's transformation from an emerging to a mature journal, balancing consistent productivity with evolving scholarly influence (Figure 1).

The authorship pattern analysis of the International Journal of Pharmaceutical Investigation (UPI) based on the dataset comprising 3,948 author contributions reveals a clear dominance of multi-authored publications, highlighting a strong culture of collaborative research within the journal. Out of the total,

Table 2: Year-wise publication and citation trend.

Sl. No.	Year	TP	TC	CPP
1	2011	42	1353	32.21
2	2012	32	2546	79.56
3	2013	29	774	26.68
4	2014	31	856	27.61
5	2015	36	1640	45.55
6	2016	28	851	30.39
7	2017	30	604	20.13
8	2018	29	100	3.44
9	2019	41	138	3.36
10	2020	106	363	3.42
11	2021	79	188	2.39
12	2022	111	155	1.39
13	2023	121	139	1.14
14	2024	138	159	1.15
15	2025	143	25	0.17
	Grand Total	986	9891	

TP: Total publications, TC: Total citations, CPP: Citation per paper.

only 45 papers were written by single authors, demonstrating that individual research accounts for barely 1.1% of the total contributions. This extremely low proportion of single-authored works signifies that IPI primarily serves as a platform for team-based scientific investigations, which are characteristic of the pharmaceutical and biomedical sciences.

The majority of the journal's publications are produced through medium-sized collaborative groups, with the highest number of papers authored by four authors (788 papers; 19.96%), followed closely by six-author papers (612; 15.5%), three-author papers (600; 15.2%), five-author papers (595; 15.1%), and seven-author papers (469; 11.9%). Together, these categories represent the core collaborative structure of the journal, accounting for more than 77% of the total publications. This trend suggests that most research contributions to UPI are team-driven, involving moderate-sized research groups that facilitate diverse expertise, shared methodologies, and interdisciplinary approaches-essential characteristics of pharmaceutical research.

Authorship involving eight or more authors shows a gradual decline, with 8-author (160 papers) and 9-author (90 papers) contributions being moderate, while those involving 10 to 17 authors are relatively rare. Specifically, 11-author (44), 12-author (72), 13-author (26), 14-author (28), and 17-author (17) papers collectively represent only about 4.8% of the total. These high-author papers typically emerge from large collaborative or institutional research projects, possibly multi-centric studies, clinical trials, or reviews involving extensive experimental participation and data analysis.

The analysis indicates that IJPI strongly favours multi-authorship patterns, reflecting a collaborative research environment that encourages shared intellectual efforts and interdisciplinary teamwork. The predominance of 3-6 author papers signifies a balanced research collaboration model, neither too small nor excessively large, which is ideal for efficient communication and effective contribution among research partners. Such an authorship distribution underscores IJPI's role as a collaborative hub in pharmaceutical investigation, promoting cooperative research and contributing to the advancement of scientific knowledge through collective expertise and shared inquiry (Table 3).

Most productive and impactful countries

Table 4 presents the top 15 most productive countries contributing to highly cited publications in the selected research domain, out of a total of 33 participating countries. These countries have published two or more papers. India stands out prominently as the leading contributor with 391 publications, accounting for a significant portion of the total research output. It also achieved the highest citation impact with 7,677 Total Citations (TC) and a strong Total Link Strength (TLS) of 28, indicating extensive international collaboration. Following India, Iran ranks second with 29 publications, 366 citations, and a TLS of 12, reflecting active research engagement, though at a much lower scale than India. Saudi Arabia holds the third position with 26 publications, 98 citations, and a TLS of 14, demonstrating moderate collaboration networks.

Malaysia ranks fourth with 19 publications and 516 citations, showing comparatively higher citation impact per paper and notable international linkage (TLS 11). The United States occupies the fifth position with 11 publications and 427 citations, suggesting high research quality and visibility despite a smaller

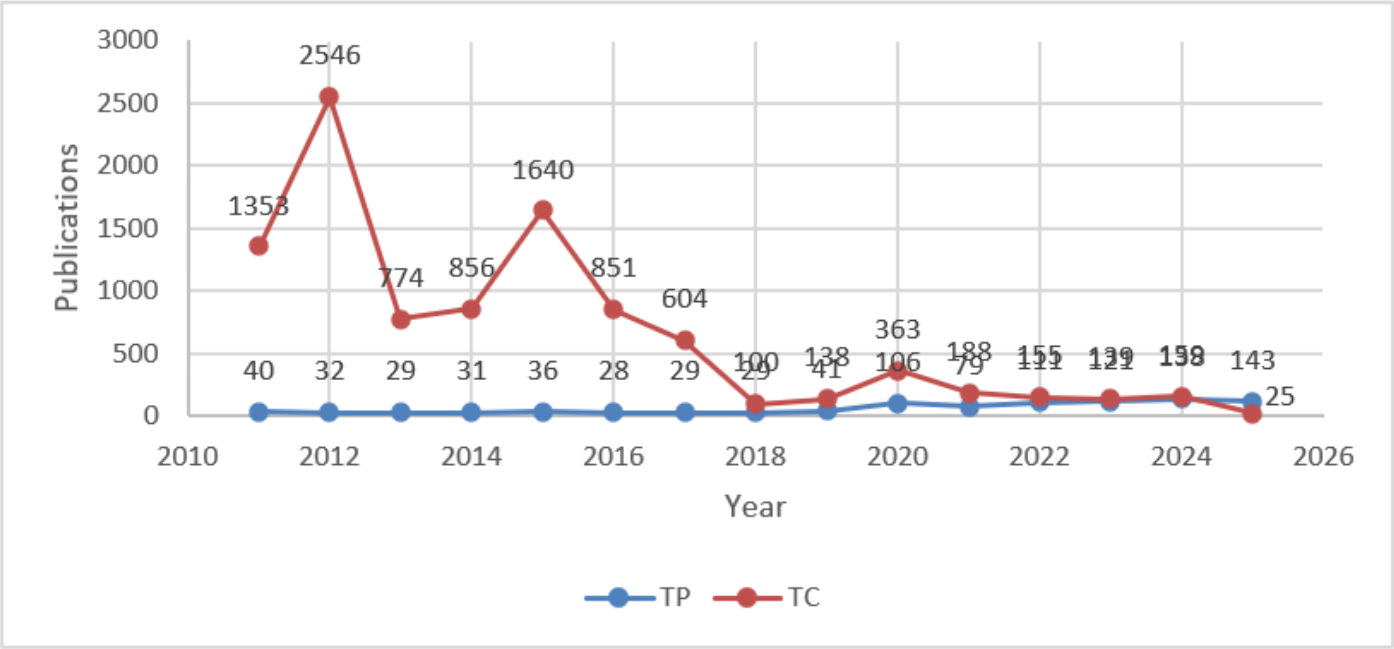

Figure 1: Publications performance and citation Trend.

volume of publications. Other contributing nations include Nigeria (10 papers, 53 citations, TLS=6) and Indonesia (5 papers, 25 citations, TLS=0), showing emerging participation in the field. Countries like Pakistan (5 papers, 13 citations, TLS=2), Canada (4 papers, 15 citations, TLS=7), Iraq (4 papers, 97 citations, TLS=1), and Lebanon (4 papers, 7 citations, TLS=1) display limited yet noteworthy involvement. Similarly, Australia (3 papers 7 citations, TLS=4) and United Arab Emirates (3 papers, 25 citations, TLS=5) maintain moderate collaborations and impact. The final two, Italy (2 papers, 38 citations, TLS=1) and Jordan (2 papers, 1 citation, TLS=2), represent minor but active contributors.

Table 3: Authorship Pattern.

Authorship Pattern	Total
Single author	45
2-Author	382
3-Author	600
4-Author	788
5-Author	595
6-Author	612
7-Author	469
8-Author	160
9-Author	90
10-Author	20
11-Author	44
12-Author	72
13-Author	26
14-Author	28
17-Author	17
Grand Total	3948

The analysis clearly shows India's dominant role in the research landscape, both in productivity and citation impact, followed by a long tail of countries with smaller but collaborative contributions. This indicates that the research field is primarily driven by India, with limited yet growing international participation (Table 4).

The table presents the top 15 most impactful countries based on citation performance among 33 participating nations in the study. Only countries with twenty-three or more citations were considered, highlighting those with the greatest research influence and visibility in the field. India dominates the global research landscape with an outstanding 391 publications, accumulating 7,677 Total Citations (TC) and a Total Link Strength (TLS) of 28, which underscores its leading position both in productivity and in international collaboration. This remarkable citation count demonstrates India's central role and influence within the global research network.

Malaysia ranks second with 19 publications and 516 citations, showing a high citation-per-paper ratio, which signifies impactful and quality-driven research output. The United States follows in the third position with 11 publications and 427 citations, reflecting strong research quality and global recognition despite a smaller publication volume. Iran stands fourth with 29 publications and 366 citations, supported by a solid collaborative network (TIS 12). Saudi Arabia ranks fifth with 26 publications and 98 citations, maintaining good regional visibility and collaboration strength (TLS=14). Interestingly, Iraq (4 publications, 97 citations) and Hungary (1 publication, 71 citations) exhibit high

Table 4: Top 15 most productive and impactful countries.

The Fifteen Productive Countries					The Fifteen Most Impactful Countries				
Sl. No.	Country	TP	TC	TLS	Sl. No.	Country	TP	TC	TLS
1	India	391	7677	28	1	India	391	7677	28
2	Iran	29	366	12	2	Malaysia	19	516	11
3	Saudi Arabia	26	98	14	3	United States	11	427	4
4	Malaysia	19	516	11	4	Iran	29	366	12
5	United States	11	427	4	5	Saudi Arabia	26	98	14
6	Nigeria	10	53	6	6	Iraq	4	97	1
7	Indonesia	5	25	0	7	Hungary	1	71	0
8	Pakistan	5	13	2	8	Nigeria	10	53	6
9	Canada	4	15	7	9	Australia	3	47	4
10	Iraq	4	97	1	10	Italy	2	38	1
11	Lebanon	4	7	1	11	Trinidad And Tobago	2	38	1
12	Australia	3	47	4	12	United Kingdom	2	35	3
13	United Arab Emirates	3	25	5	13	Indonesia	5	25	0
14	Italy	2	38	1	14	United Arab Emirates	3	25	5
15	Jordan	2	1	2	15	Ethiopia	1	23	2

citation impact relative to their low output, indicating that their research contributions are highly influential. Nigeria (10 papers, 53 citations) and Australia (3 papers, 47 citations) maintain steady participation with growing academic visibility. Similarly, Italy and Trinidad and Tobago each have 2 publications and 38 citations, reflecting strong citation averages per paper. The United Kingdom also demonstrates a significant impact with 2 papers, 35 citations, and moderate collaboration (TLS=3). Towards the end, Indonesia (5 papers, 25 citations), United Arab Emirates (3 papers, 25 citations), and Ethiopia (1 paper, 23 citations) represent emerging contributors with meaningful citation performance despite limited output.

Overall, the analysis reveals that India overwhelmingly leads in both research output and citation impact, followed by countries such as Malaysia, the United States, and Iran, which show strong influence and collaboration. Several smaller nations like Hungary, Iraq, and Trinidad and Tobago stand out for their high citation impact per paper, reflecting quality-driven and specialised research contributions in the field.

Country collaboration

The VOSviewer country collaboration map visualises the international research network among 21 countries, out of a total of 33 participating nations, that have contributed one or more publications. The analysis generated 7 clusters, 34 links, and a Total Link Strength (TLS) of 55, reflecting a moderate yet meaningful degree of global collaboration within the studied field. At the centre of the map, India emerges as the most dominant and collaborative hub, forming strong and multiple connections with several countries, including Iran, Malaysia, Saudi Arabia, Australia, Iraq, Sri Lanka, and Trinidad and Tobago. The large node size and thick connecting lines highlight India's leading role and extensive international partnerships, confirming its status as the driving force of global research in this domain.

Iran forms another influential node, displaying active linkages with India, the United States, Nigeria, and Canada, indicating a well-connected collaboration network bridging Asian and Western countries. Similarly, Malaysia maintains key partnerships with India, Australia, the United Kingdom, and Thailand, signifying its strategic position in Southeast Asian research collaboration. Saudi Arabia represents a distinct cluster, connecting with Pakistan, Jordan, the United Arab Emirates, Egypt, Oman, and Australia, showing strong intra-regional cooperation within the Middle East. Countries like Australia, the United Kingdom, and Canada act as intermediary partners linking Asian and Western research networks, though their node sizes remain smaller compared to India and Iran. Smaller nodes such as Iraq, Lebanon, Ethiopia, and Sri Lanka indicate emerging research participation with limited but growing collaborations. The presence of seven distinct clusters demonstrates regional cooperation patterns, particularly among Asian and Middle Eastern countries, while also suggesting the need for deeper intercontinental linkages.

Overall, the map highlights that India serves as the central collaborative hub, supported by Iran, Saudi Arabia, and Malaysia as key secondary partners. The structure reveals a growing global research network characterised by regional cohesion, expanding cross-border partnerships, and an increasing international footprint of Indian-led collaborations in the studied research area (Figure 2).

Leading Authors

The authorship analysis of the top 25 most productive authors reveals significant insights into the publication and citation dynamics of antifungal drug discovery research. Out of a total of 3,288 authors, only 395 authors met the threshold of contributing five or more papers, indicating a highly concentrated core group of active researchers in this field. Within this elite group, the top 25 authors together contributed 188 papers, reflecting their substantial share in the overall research output. Among them, Sanatkumar Bharamu Nyamagoud from KLE College of Pharmacy, Hubli, stands out as the most productive author with 16 publications and a Total Link Strength (TLS) of 44, signifying his strong research collaboration network, though his citation count (TC4) is relatively low. Javed Ali from Jamia Hamdard, New Delhi ranks second with 15 papers and an impressive 671 citations, reflecting his strong research impact and visibility, despite a modest TLS (14). Rohit Jaysing Bhor from Savitribai Phule Pune University follows with 13 publications and the highest TLS (54) among all authors, indicating his wide-ranging collaborative engagements, although with limited citations (TC 6). Authors such as Kamla Pathak from Uttar Pradesh University of Medical Sciences and Prabhakara Prabhu from Shree Devi College of Pharmacy, Mangalore, demonstrated notable scholarly influence, with 9 papers (175 citations) and 6 papers (274 citations) respectively, suggesting a balance between productivity and impact. Similarly, Gaurav Tiwari from Singh Institute of Technology (Pharmacy), Kanpur achieved remarkable visibility, earning 1,482 citations from 5 publications, giving him the highest average citation per paper (296.4) among the top 25, reflecting his significant influence in antifungal drug discovery. Other prolific contributors include Agadi Hiremath Viswanatha Swamy (9 papers, TLS 18), Prasenjit Mondal (8 papers, TLS 16), and Sumanta Mondal (8 papers, 30 citations), who exhibit consistent productivity. Kethineni Chandrika (7 papers, 84 citations) and Akhilesh Dubey (7 papers, 111 citations) also show strong research output with moderate citation impact. Mahesh Hari Kolhe (7 papers, TLS 39) ranks high in collaboration, suggesting extensive research networking. Several mid-level contributors, such as Chhagan N. Patel (6 papers, 166 citations), Marina Koland (5 papers, 179 citations), and Jasjeet Kaur Narang (5 papers, 226 citations) reveal that even lower publication counts can correspond to significant citation performance, emphasising

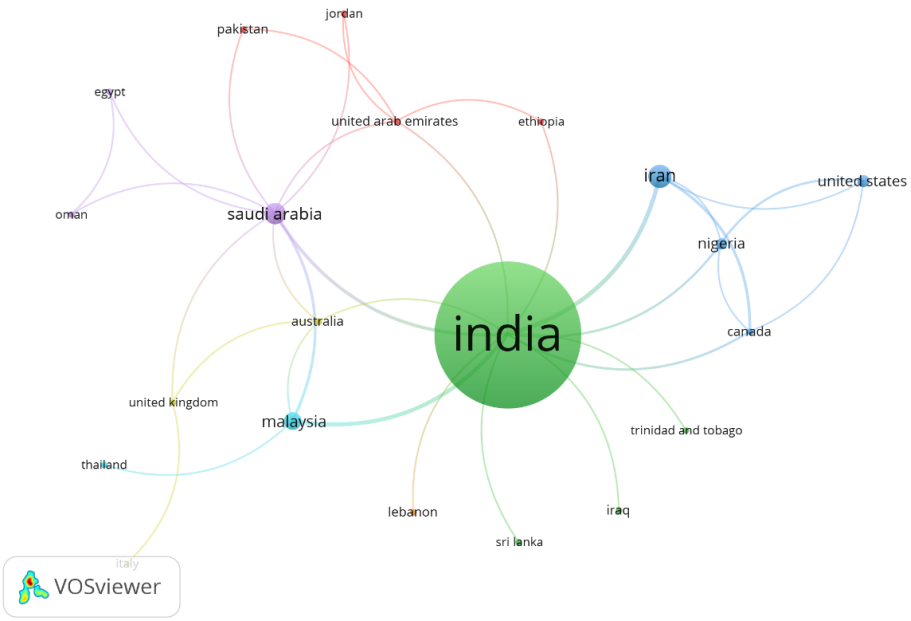

Figure 2: Co-authorship network map of 21 participating countries.

quality over quantity. Meanwhile, authors like Gupta B.M., Saqib Hassan, and Mihir Raval maintain a balanced profile in both citations and collaboration indices. the authorship trend demonstrates a clear core-periphery structure, where a small group of highly active researchers contributes a large share of publications, while a few achieve exceptional citation impact despite fewer papers. This pattern highlights the evolving collaborative landscape and varying levels of scholarly influence among researchers in antifungal drug discovery (Table 5).

Author Collaboration Network Analysis

The VOSviewer-generated co-authorship network displays the collaboration pattern among 31 authors, divided into 6 distinct clusters, forming 135 total links and exhibiting a Total Link Strength (TLS) of 207. The network reflects a strong interconnection among research contributors, highlighting key nodes and research groups active within the domain. Cluster 1 (Red Cluster) consists of authors such as Pratik Naveenkumar Magadum. Om Prakash Bhallaram Choudary, Shashidhar Mallikarjun Javali, Rakshita Paladi, and Sachin Basavaraj Shetty, among others. This cluster shows a high degree of internal collaboration, forming a tightly knit network. The strong interlinkages indicate intensive joint publications and a cohesive research group structure, possibly working under a shared institutional or thematic umbrella. Cluster 2 (Green Cluster) includes Agadi Hiremath Viswanatha Swamy, Akshata Gore, Shamita Shyam Sail, Afra Anwar Sayed, and Ramish Khan. This cluster displays a umbrella. Cluster 2 (Green Cluster) includes Agadi Hiremath Viswanatha Swamy, Akshata Gore, Shamita Shyam Sail, Afra Anwar Sayed, and Ramish Khan. This cluster displays a moderately dense collaboration pattern, suggesting multidisciplinary linkages. The central node, Viswanatha Swamy Agadi Hiremath, connects significantly with other groups, demonstrating his role as a bridging author within the broader network. Cluster 3 (Yellow Cluster) is led by Sanatkumar Bharamu Nyamagoud, who emerges as the most influential node with the highest total link strength within the network. This cluster shows collaborative ties with nearly all other clusters, indicating Nyamagoud's central role as a key connector and a prolific collaborator in this domain. Cluster 4 (Blue Cluster) contains Sumitradevi Choudhary, Fatima Sanjeri Dasankoppa, and Amruth M Sansthanmath. The interconnections are fewer but strong within the cluster, representing a small yet cohesive research team that maintains external collaborations primarily through Agadi Hiremath Viswanatha Swamy. Cluster 5 (Purple Cluster) is formed by Dhananjay Tikadar and Saurav Raj, showing a smaller but highly interactive subgroup, possibly focusing on a specific niche topic with collaborative linkages extending to the main yellow and blue clusters. Cluster 6 (Light Blue Cluster) includes Kaushal Kumar and Bibi Khuteja Jangliwale. Though relatively smaller, this cluster links to the central node Nyamagoud, representing cross-institutional or cross-thematic collaboration.

Overall, the network's 135 links and 207 total link strength reflect a healthy level of cooperation among the authors, emphasising active teamwork and knowledge exchange. The presence of six distinct clusters reveals thematic diversity and multidisciplinary engagement across the network. The central position of Sanathkumar Bharamu Nyamagouda highlights his leadership in fostering an umbrella. Cluster 2 (Green Cluster) includes Agadi Hiremath Viswanatha Swamy, Akshata Gore, Shamita Shyam Sail, Afra Anwar Sayed, and Ramish Khan. This cluster

Table 5: Top 25 most productive authors.

Sl. No.	Author	Affiliation	TP	TC	TLS
1	Sanatkumar Bharamu Nyamagoud	KLE College of Pharmacy, Hubli	16	4	44
2	Javed Ali	Jamia Hamdard, New Delhi	15	671	14
3	Rohit Jaysing Bhor	Savitribai Phule Pune University	13	6	54
4	Kamla Pathak	Uttar Pradesh University of Medical Sciences	9	175	4
5	Agadi Hiremath Viswanatha Swamy	KLE College of Pharmacy, Hubli	9	5	18
6	Prasenjit Mondal	Brainware University,	8	15	16
7	Sumanta Mondal,	Gitam Institute of Pharmacy	8	30	14
8	Kethineni Chandrika	Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur,	7	84	12
9	Akhilesh Dubey	NGSM Institute of Pharmaceutical Sciences,	7	111	9
10	Ekramul Haque	Pondicherry University, Puducherry	7	49	10
11	Mahesh Hari Kolhe,	Pravara Rural College of Pharmacy, Prvaranagar.	7	5	39
12	Mueen Ahmed, K.K.	Sri Vidya College of Pharmacy	6	27	13
13	Lakshmi Prasanthi Nori	Shri Vishnu College of Pharmacy, Bhimavaram.	6	7	10
14	Chhagan N Patel	Shri Sarvajanik Pharmacy College	6	166	6
15	Prabhakara Prabhu	Shree Devi College of Pharmacy, Mangalore.	6	274	9
16	Gupta, B.M.	Nistads, Csir, New Delhi.	5	25	11
17	Saqib Hassan	Sathyabama Institute of Science and Technology.	5	46	10
18	Marina Koland	NGSM Institute of Pharmaceutical Sciences,	5	179	4
19	Anil Kumar	Mullana, Ambala, Haryana, India	5	95	4
20	Pk Lakshmi	G. Pulla Reddy College of Pharmacy, Mehdipatnam, Hyderabad,	5	154	0
21	Jasjeet Kaur Narang	Khalsa College of Pharmacy, Amritsar,	5	226	6
22	Mihir Raval	Sardar Patel University, Vallabh	5	132	14
23	Singh, Shailendra Kumar	Guru Jambheshwar University of Science and Technology	5	89	9
24	Gaurav Tiwari	Singh Institute of Technology (Pharmacy), Kanpur	5	1482	4
25	Anurag Verma	Teerthanker Mahaveer University, Moradabad.	5	3	4

displays a moderately dense collaboration pattern, suggesting multidisciplinary linkages. The central node, Viswanatha Swamy Agadi Hiremath, connects significantly with other groups, demonstrating his role as a bridging author within the broader network. Cluster 3 (Yellow Cluster) is led by Sanatkumar Bharamu Nyamagoud, who emerges as the most influential node with the highest total link strength within the network. This cluster shows collaborative ties with nearly all other clusters, indicating Nyamagoud's central role as a key connector and a prolific collaborator in this domain. Cluster 4 (Blue Cluster) contains Sumitradevi Choudhary, Fatima Sanjeri Dasankoppa, and Amruth M Sansthanmath. The interconnections are fewer but strong within the cluster, representing a small yet cohesive research team that maintains external collaborations primarily through Agadi Hiremath Viswanatha Swamy. Cluster 5 (Purple Cluster) is formed by Dhananjay Tikadar and Saurav Raj, showing a smaller but highly interactive subgroup, possibly focusing on a specific niche topic with collaborative linkages extending to the main yellow and blue clusters. Cluster 6 (Light Blue Cluster) includes Kaushal Kumar and Bibi Khuteja Jangliwale. Though relatively smaller, this cluster links to the central node Nyamagouda, representing cross-institutional or cross-thematic collaboration (Figure 3).

Top 15 Most Productive and Impactful Organisations

In the field of Indian Medical Journal Research, a total of 972 organisations contributed to the scholarly output, of which 166 institutions met the threshold of publishing at least two or more papers. The analysis of the Top 15 most productive and impactful organisations reveals significant diversity in research productivity, citation impact, and collaborative strength, as measured through Total Publications (TP), Total Citations (TC), and Total Link Strength (TLS). Dr. A.P.J. Abdul Kalam Technical University, Lucknow. This institution ranks first with

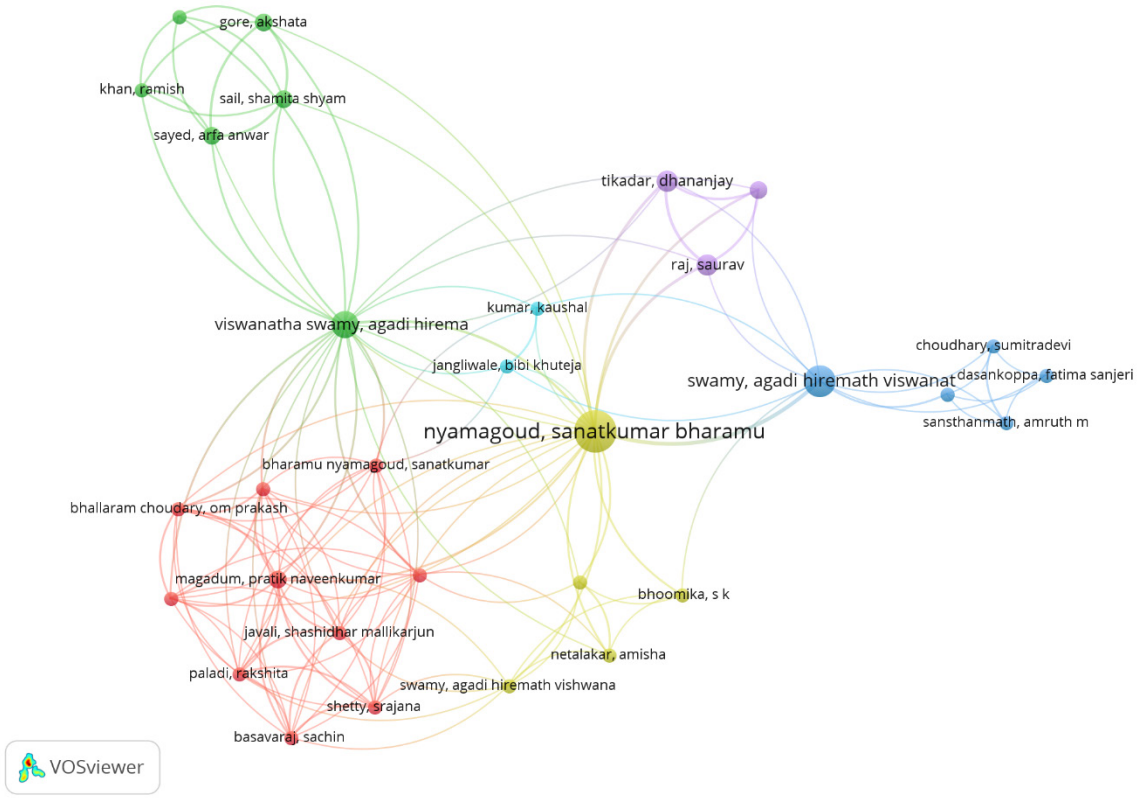

Figure 3: Top 31 authors' collaboration network.

17 publications, receiving 2489 citations and a TLS of 2, making it the most impactful organization in terms of citation influence. Its exceptionally high citation count indicates its leadership in producing globally recognized, high-quality research, followed by Jamia Hamdard, New Delhi, Jamia Hamdard also contributed 17 publications with 677 citations and a TLS of 4, demonstrating strong collaborative engagement and consistent productivity. The university's research in medical and pharmaceutical sciences contributes significantly to India's biomedical literature, Annamalai University With 12 papers, 61 citations, and a TLS of 1. Annamalai University shows steady scholarly engagement. Although its citation impact is moderate, it contributes to the overall growth of Indian medical research dissemination. Acharya Nagarjuna University this university published 11 papers, received 79 citations, and achieved a TLS of 4, indicating an active collaboration network within and beyond institutional boundaries, Koneru Lakshmaiah Education Foundation also producing 11 papers with 92 citations and a TLS of 4, the foundation displays a balanced combination of productivity and collaboration, reflecting emerging research activity in applied medical sciences, Saurashtra University produced 11 papers that gained 301 citations and a TLS of 7. positioning it among the top collaborative hubs. Its high TLS indicates strong research linkages and multidisciplinary contributions and Gujarat Technological University T positioning it among the top collaborative hubs. Its high TLLS indicates strong research linkages and multidisciplinary contributions and Gujarat Technological University contributed 10 papers, with 167 citations and a TLS of 4. It maintains a notable research footprint through sustained productivity and collaborative ties across pharmaceutical and biomedical domains. Jawaharlal Nehru Technological University, Kakinada, With 9 papers, 104 citations, and a TLS of 2, the university contributes consistently, though with limited collaboration links compared to other top institutions followed by Rajiv Gandhi University of Health Sciences, Bengaluru Publishing 9 papers with 70 citations and a TLS of 4, this health sciences university focuses on clinical and biomedical aspects, reflecting moderate citation impact but strong inter-institutional connectivity, Tamil Nadu Dr. M.G.R. Medical University, this leading medical institution produced 9 papers, garnering 71 citations and an impressive TLS of 8, indicating the highest collaboration intensity among top contributors, suggesting strong interdisciplinary partnerships, Asian Institute of Medicine, Science and Technology With 8 publications, 213 citations, and a TLS of 7, the institute exhibits strong international and national collaboration, highlighting its influential research output. Bharati Vidyapeeth Deemed University contributed 8 papers, receiving 42 citatior's and a TLS of 1, showing steady productivity though limited collaborative engagement, Chitkara University (also referred to as Chikara University in some databases) produced 8 papers, attracted

425 citations, and has a TLS of 2, marking it as a high-impact emerging research institution with a growing national presence, Osmania University With 8 publications, 117 citations, and TLS meck steady productivity though limited collaborative engagement, Chitkara University (also referred to as Chikara University in some databases) produced 8 papers, attracted 425 citations, and has a TLS of 2, marking it as a high-impact emerging research institution with a growing national presence, Osmania University With 8 publications, 117 citations, and TLS of 2, Osmania University demonstrates a balanced profile of moderate productivity and impact within the Indian research landscape, Savitribai Phule Pune University contributed 8 papers, received 237 citations, and recorded a TLS of 5, placing it among the most collaborative and impactful universities in the country.

Among the 166 institutions meeting the publication threshold, the Top 15 organisations collectively produced 156 publications, amassed 6,783 citations, and exhibited diverse Total Link Strengths ranging from 1 to 8 (Table 6).

Organisational Collaboration Analysis

The collaborative network of 47 organisations in the Indian Journal of Medical Research's highly cited papers demonstrates a well-connected structure divided into 9 clusters, indicating multiple regional and thematic research alliances. The network

Table 6: Top 15 most productive and impactful organisations.

Sl. No.	Most Productive Organisations	TP	TC	TLS
1	Dr. A.P.J. Abdul Kalam Technical University	17	2489	2
2	Jamia Hamdard	17	677	4
3	Annamalai University	12	61	1
4	Acharya Nagarjuna University	11	79	4
5	Koneru Lakshmaiah Education Foundation	11	92	4
6	Saurashtra University	11	301	7
7	Gujarat Technological University	10	167	4
8	Jawaharlal Nehru Technological University, Kakinada	9	104	2
9	Rajiv Gandhi University of Health Sciences	9	70	4
10	Tamil Nadu Dr. M.G.R. Medical University	9	71	8
11	Asian Institute of Medicine, Science and Technology	8	213	7
12	Bharati Vidyapeeth Deemed University	8	42	1
13	Chitkara University	8	425	2
14	Osmania University	8	117	2
15	Savitribai Phule Pune University	8	237	5
Sl. No.	**Most Impactful Organisations**	**TP**	**TC**	**TLS**
1	Dr. A.P.J. Abdul Kalam Technical University	17	2489	2
2	Jaipur National University	4	1533	4
3	Amity University	6	886	1
4	Jamia Hamdard	17	677	4
5	Chikara University	8	425	2
6	Saurashtra University	11	301	7
7	Savitribai Phule Pune University	8	237	5
8	Government Medical College	3	233	3
9	Kakatiya University	6	228	2
10	Khalsa College of Pharmacy, Amritsar, Punjab, India	4	220	3
11	Asian Institute of Medicine, Science and Technology	8	213	7
12	Atmiya Institute of Pharmacy, Kalawad Road, Rajkot, Gujarat.	3	195	3
13	International Medical University	4	188	3
14	Nirma University	4	170	0
15	Gujarat Technological University	10	167	4

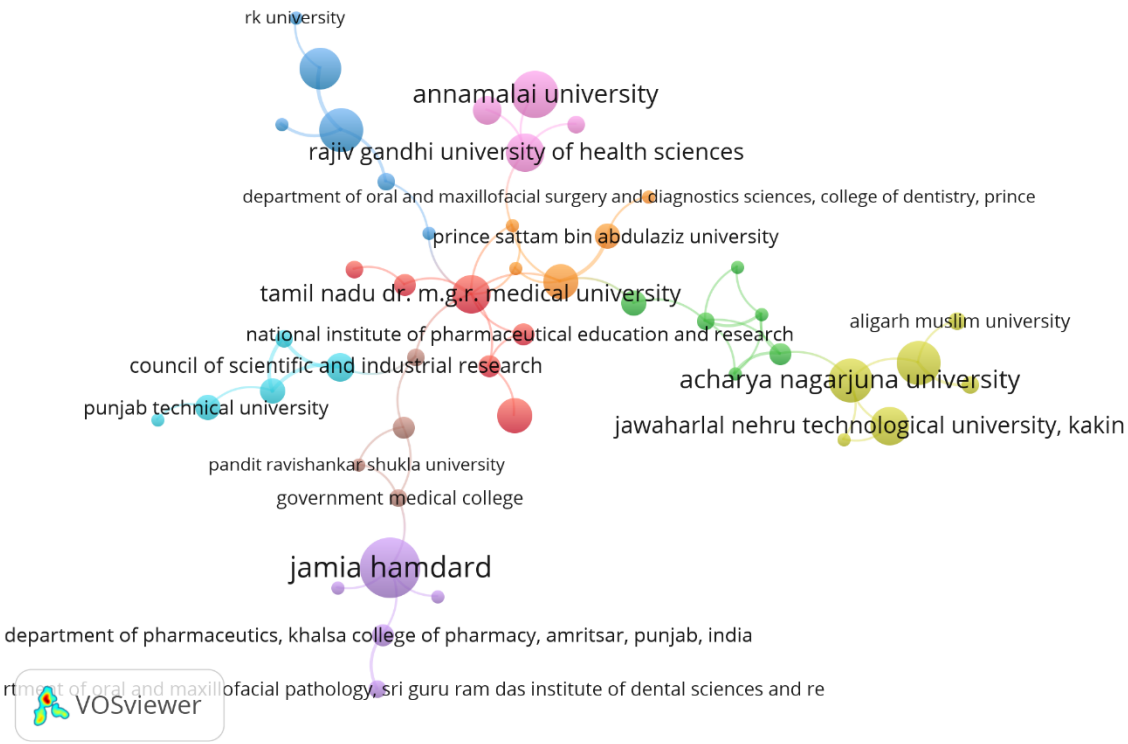

Figure 4: Top 47 organisations' collaboration network.

includes 57 collaboration links among institutions, reflecting strong inter-institutional partnerships, while the Total Link Strength (TLS) of 73 highlights the overall intensity of cooperation. Cluster 1 (Red, 9 organizations) represents a dominant medical research group centred around the Tamil Nadu Dr. M.G.R. Medical University, Council of Scientific and Industrial Research (CSIR), and the National Institute of Pharmaceutical Education and Research (NIPER). This cluster reflects core biomedical and pharmaceutical collaborations contributing heavily to high-impact publications. Cluster 2 (Purple, 6 organisations) is anchored by Jamia Hamdard, showing strong links with associated pharmacy colleges such as Khalsa College of Pharmacy, Amritsar, and Sri Guru Ram Das Institute of Dental Sciences, emphasizing pharmacological and dental research synergy. Jamia Hamdard emerges as a pivotal node with high visibility and strong international collaboration potential. Cluster 3 (Yellow, 5 organizations) features Acharya Nagarjuna University and Jawaharlal Nehru Technological University, Kakinada, forming a regional network with Aligarh Muslim University, reflecting collaborative biomedical and pharmaceutical engineering research. Cluster 4 (Blue, 5 organizations) revolves around Annamalai University, Rajiv Gandhi University of Health Sciences, and RK University, symbolizing active partnerships in health sciences, dental, and oral pathology research. This cluster represents southern India's major medical education and research centres. Cluster 5 (Orange, 4 organizations) includes Prince Sattam Bin Abdulaziz University and other Middle Eastern collaborations with Indian dental and diagnostic institutions, showing cross-border academic engagement in oral and dental sciences. Cluster 6 (Green, 4 organizations) connects Aligarh Muslim University with related institutions through medical and life science studies, showing significant interdisciplinary linkages. Cluster 7 (Light brown, 4 organizations) links Pandit Ravishankar Shukla University and Government Medical College, revealing state-level research contributions and clinical collaborations. Cluster 8 (Cyan, 3 organizations) includes Punjab Technical University, connecting engineering applications to medical research themes. Cluster 9 (Light pink, 2 organizations) represents smaller but active research entities involved in niche areas such as oral pathology and diagnostics sciences.

The Jamia Hamdard, Tamil Nadu Dr. M.G.R. Medical University. Annamalai University. Acharya Nagarjuna University, and CSIR appear as central hubs in this network due to their higher node sizes and link strength, denoting strong co-authorship and interdisciplinary Aligarh Muslim University with related institutions through medical and life science studies, showing significant interdisciplinary linkages. Cluster 7 (Light brown, 4 organisations) links Pandit Ravishankar Shukla University and Government Medical College, revealing state-level research contributions and clinical collaborations. Cluster 8 (Cyan, 3 organisations) includes Punjab Technical University, connecting engineering applications to medical research themes. Cluster 9 (Light pink, 2 organisations) represents smaller but active

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OVERALL DISCUSSION OF THE STUDY

The present scientometric investigation of the International Journal of Pharmaceutical Investigation (IJPI) spanning from 2011 to 2025 provides a holistic evaluation of its research growth, citation dynamics, collaborative structure, and thematic evolution. The analysis reveals that IJPI has demonstrated steady and consistent growth, publishing 986 documents with an annual growth rate of 7.66%, signifying its increasing recognition and credibility in the pharmaceutical sciences domain. The journal's citation pattern, averaging 11.64 citations per paper, reflects a moderate but stable scholarly influence, indicating that its publications are regularly referenced and utilised by researchers globally. The high volume of references (14,150) across publications further underscores the journal's strong grounding in prior scientific literature and its authors' engagement with diverse sources of knowledge.

The publication trend exhibits three distinct phases: an initial growth period (2011-2015) marked by foundational contributions and high citation peaks, a stabilisation phase (2016-2019) with moderate output but declining citation momentum, and a rapid expansion phase (2020-2025) characterised by significant growth in publication volume. The early years, particularly 2011 and 2012, stand out for their exceptional citation impact, suggesting that the journal's formative publications contained pioneering or widely applicable research. The journal's formative publications contained pioneering or widely applicable research. The recent years, though less cited due to temporal citation lag, demonstrate robust productivity and author participation, reflecting IJPI's evolving editorial capacity and growing submission rates. Authorship analysis reveals that IJPI has cultivated a strongly collaborative research culture. Out of 3,059 contributing authors, only 36 published single-authored papers, while the majority participated in multi-author teams, averaging 4.07 authors per paper. This pattern highlights the journal's emphasis on cooperative, interdisciplinary, and team-based research, an essential characteristic of pharmaceutical investigation, which inherently relies on cross-functional expertise. The predominance of 3-6 author collaborations illustrates an optimal balance between group productivity and intellectual cohesion. International collaboration, though limited to 3.91%, is gradually increasing, suggesting a positive trend towards global engagement.

The analysis of leading authors further strengthens the understanding of IJPI's scholarly ecosystem. A small core of highly active contributors drives the majority of research output, while a few have achieved notable citation success, emphasising the coexistence of productivity and impact. The author collaboration network, comprising 31 items distributed across six clusters with 135 links and a Total Link Strength (TLS) of 207, depicts a healthy research network structure with strong intra- and inter-cluster connectivity. Central figures like Sanathkumar Bharamu Nyamagouda and Agadi Hiremath Viswanatha Swamy emerge as influential nodes, reflecting leadership in fostering research linkages and knowledge dissemination within the LJPI community. Institutional analysis reveals a geographically and thematically diverse range of contributors. Institutions such as Dr. A.P.J. Abdul Kalam Technical University, Jamia Hamdard, and Saurashtra University stand out for their high research productivity and citation impact, illustrating that IJPI attracts contributions from both academic and applied research sectors across India. The organisational collaboration map, encompassing 47 institutions in nine clusters with 73 TLS, further underscores the interconnectedness of medical, pharmaceutical, and technological universities in advancing high-quality research.

The findings indicate that IJPI has evolved from a modest platform for pharmaceutical investigations into a dynamic and influential journal with growing global reach, steady productivity, and an expanding collaborative network. Its balanced combination of quantitative growth, interdisciplinary research, and gradual internationalisation positions it as a significant contributor to pharmaceutical and biomedical scholarship in the developing world.

CONCLUSION

The scientometric assessment of the International Journal of Pharmaceutical Investigation (IJPI) (2011-2025) reveals that the journal has made notable progress in both research volume and visibility within the pharmaceutical sciences. It demonstrates a sustained publication growth rate of 7.66%, a moderate citation average (11.64 CPP), and a collaborative authorship culture with an average of over four authors per paper. The journal's early years (2011-2015) established its academic foundation with highly cited works, while its recent years signify expansion and diversification in research themes and participation. The co-authorship and institutional collaboration analyses confirm that IJPI fosters a vibrant network of researchers and organisations, with a clear inclination toward teamwork and inter-institutional linkages. Thematic keyword trends and network structures suggest a multidisciplinary orientation, integrating pharmaceutical technology, formulation science, and biomedical investigation. Although international collaboration remains modest, the

trend indicates growing participation from global researchers, enhancing IJPI's potential for wider recognition.

The International Journal of Pharmaceutical Investigation has emerged as a vital medium for disseminating contemporary pharmaceutical research, demonstrating both scholarly influence and community growth. Its steady publication trajectory, expanding collaboration networks, and consistent engagement with high-quality research reflect a promising future. Strengthening international partnerships, increasing open-access visibility, and focusing on high-impact thematic areas could further elevate its status as a globally recognised journal in pharmaceutical and biomedical sciences.

ABBREVIATIONS

IJPI: International Journal of Pharmaceutical Investigation; **PoP:** Publish or Perish; **TP:** Total Publications; **TC:** Total citations; **CPP:** Citations per paper; **TLS:** Total link strength; **AGR:** Annual growth rate; **VOSviewer:** Visualisation of similarities.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

Mueen Ahmed KK, Conceptualised and supervised the study. Mohammed Yunus handled data collection, validation, and Visualisation. Chaman Sab M performed data analysis, interpretation, and manuscript drafting. All authors reviewed the final version of the manuscript.

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