

Publication Productivity of Nephrology Literature Published from the United Kingdom during 2014-2023: A Scientometric Analysis

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ABSTRACT

This Scientometric study analyzes the trends and patterns in nephrology literature published from the United Kingdom over ten years (2014–2023), encompassing a total of 5,100 research articles. The investigation covers multiple dimensions, including year-wise publication output, preferred channels of communication, citation and referencing behaviour, authorship dynamics, and growth indicators such as Relative Growth Rate (RGR), Doubling Time (Dt), Annual Ratio of Growth (ARoG), and Annual Growth Rate (AGR). The year-wise distribution reveals a consistent upward trend, with annual output rising from 396 papers in 2014 to a peak of 630 in 2023. A significant concentration of research appeared in high-impact journals such as Nephrology Dialysis Transplantation (36.57% of total output) and Pediatric Nephrology (16.78%), indicating the prominence of these platforms in disseminating UK nephrology research. Citation analysis showed that the publications collectively received 94,403 citations, with a cumulative average of 18.51 citations per paper. The highest citation-per-paper ratio was observed in earlier years (36.39 in 2014), while recent years showed lower citation impact due to limited exposure time. A total of 135,106 references were cited, with an average of 26.49 references per paper, reflecting increasing scholarly engagement and depth of literature review over time. The reference-per-paper ratio was highest in 2022 (32.33), indicating enriched research quality in recent publications.

KEYWORDS: Research productivity; Relative Growth Rate (RGR); Doubling Time (Dt); Annual Growth Rate (AGR); Authorship patterns; Channels of communication; Publication trends; Scientific output.

INTRODUCTION

Nephrology, a vital medical specialty concerned with the diagnosis and treatment of kidney-related disorders, has seen significant advances over the past decade in both clinical practice and scientific research. The burden of chronic kidney disease (CKD) continues to grow globally, prompting an increased need for high-quality research to

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inform treatment strategies, healthcare planning, and public health interventions. The United Kingdom, with its strong academic and clinical infrastructure, has been a key contributor to global nephrology research. Understanding the evolution of this contribution is crucial for assessing research priorities, identifying trends, and guiding future policy and funding decisions.

Scientometric analysis serves as a powerful tool to quantitatively evaluate the growth, impact, and direction of scholarly output within a field. It enables the identification of publication patterns, influential journals, citation behaviors, and collaboration trends. By examining key bibliometric indicators such as Relative Growth Rate (RGR), Doubling Time (Dt), Annual Growth Rate (AGR), and citation/reference analysis, one can gain meaningful insights into the developmental trajectory of a scientific domain.

This study presents a comprehensive Scientometric analysis of nephrology literature published from the United Kingdom during the period 2014 to 2023. It aims to assess the year-wise distribution of publications, identify leading communication channels, examine citation and referencing behaviour, evaluate authorship patterns, and analyze the overall growth of nephrology research using standard bibliometric indicators. The findings not only highlight the quantitative progress made in this field but also provide a foundation for comparative and strategic assessments of nephrology research in the UK within the global scientific landscape.

REVIEW OF LITERATURE

Kumar, S., & Dora, M. (2012) conducted a bibliometric study of Indian nephrology research using SCOPUS data, highlighting trends in publication output, core journals, and collaboration patterns. They found that India's contribution to global nephrology literature was growing, though still limited in citation impact compared to developed countries. Sahu, A. K., & Sahu, D. K. (2018) analyzed authorship trends and collaborative research patterns in Indian medical science publications. Their study emphasized the dominance of multi-authored papers and identified a gradual increase in collaborative coefficients in disciplines like nephrology and cardiology. Patra, S. K., & Chand, P. (2006) examined bibliometric indicators of Indian biomedical research, including growth rate, doubling time, and institutional productivity. They highlighted disparities in subject-wise output, noting that specialties like nephrology were underrepresented compared to oncology and cardiology.

METHODOLOGY

This study adopts a quantitative Scientometric approach to analyze nephrology literature published from the United Kingdom during the period 2014 to 2023. Data were sourced from a curated set of indexed journals in a reputed scientific database, i.e., Web of Science, focusing on research articles affiliated with UK institutions. Key Scientometric indicators such as publication count, authorship patterns, preferred journals, citations, references, Relative Growth Rate (RGR), Doubling Time (Dt), Annual Ratio of Growth (ARoG), and Annual Growth Rate (AGR) were calculated using standard formulas. Data were organized block-wise and year-wise to observe trends in output and growth. Microsoft Excel and basic statistical tools were used for tabulation, computation, and visualization with suitable graphs and charts.

SCOPE AND LIMITATIONS

This study focuses on analyzing nephrology literature published from the United Kingdom between 2014 and 2023 using Scientometric indicators such as publication output, citation trends, authorship patterns, and growth metrics. The scope includes quantitative assessment across leading journals and research productivity trends within the defined period. However, the study is limited to data available from selected indexed sources and may not capture non-indexed or regional publications. Additionally, recent years (especially 2022–2023) may show lower citation counts due to shorter exposure time, potentially affecting citation-based indicators.

MAJOR OBJECTIVES

1. To examine the year-wise growth of nephrology literature published from the United Kingdom during 2014–2023.
2. To identify the leading journals and channels of communication used for disseminating UK nephrology research.
3. To analyze citation and referencing trends across the study period.
4. To study authorship patterns and collaborative trends in nephrology publications.
5. To calculate key bibliometric indicators such as Relative Growth Rate (RGR), Doubling Time (Dt), Annual Ratio of Growth (ARoG), and Annual Growth Rate (AGR).
6. To assess the overall research productivity and impact of UK-based nephrology literature within the global scientific landscape.

Table 1: Authorship Pattern of Nephrology Literature Published from the UK during 2014-2023

Authorship Pattern of Nephrology Literature Published from the UK during 2014-2023																				
Sl. No	Year	Authorship Pattern											MAP	Total	%	DC	RSA	CC	MCC	CI
		Single*	2*	3*	4*	5*	6*	7*	8*	9*	10*	10+*								
1	2014	19	56	38	32	47	28	37	18	23	11	87	377	396	7.76	0.95	0.05	0.75	1.31	8.66
2	2015	21	68	61	85	75	52	50	29	29	18	87	554	575	11.27	0.96	0.04	0.75	1.31	6.87
3	2016	24	41	36	37	60	49	35	36	22	13	88	417	441	8.65	0.95	0.05	0.76	1.29	8.02
4	2017	21	46	55	52	53	40	53	46	33	17	144	539	560	10.98	0.96	0.04	0.78	1.25	9.14
5	2018	18	43	42	52	38	40	39	26	27	16	112	435	453	8.88	0.96	0.04	0.77	1.27	9.31
6	2019	24	51	49	43	39	38	23	32	18	11	118	422	446	8.75	0.95	0.05	0.75	1.30	11.49
7	2020	10	42	53	47	58	39	38	29	19	15	134	474	484	9.49	0.98	0.02	0.79	1.23	10.03
8	2021	8	43	47	57	54	47	46	37	26	24	217	598	606	11.88	0.99	0.01	0.81	1.19	10.32
9	2022	12	39	35	54	26	37	32	26	31	28	189	497	509	9.98	0.98	0.02	0.80	1.19	11.43
10	2023	22	20	59	43	52	67	64	37	32	32	202	608	630	12.35	0.97	0.03	0.80	1.20	10.67
	Total	179	449	475	502	502	437	417	316	260	185	1378	4921	5100	100	0.96	0.04	0.78	1.25	9.62

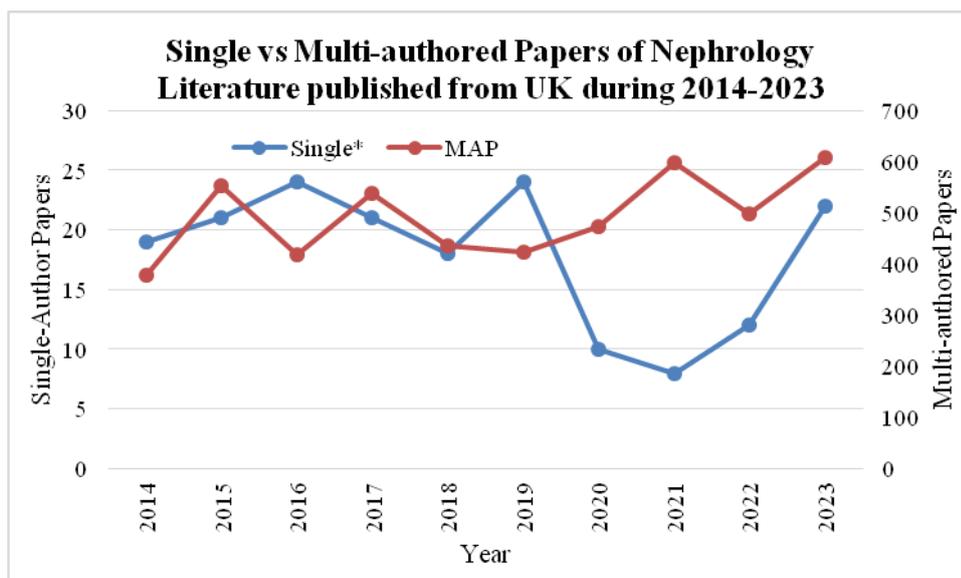


Figure 1: Single vs Multi-authored Papers of Nephrology Literature published from UK during 2014-2023

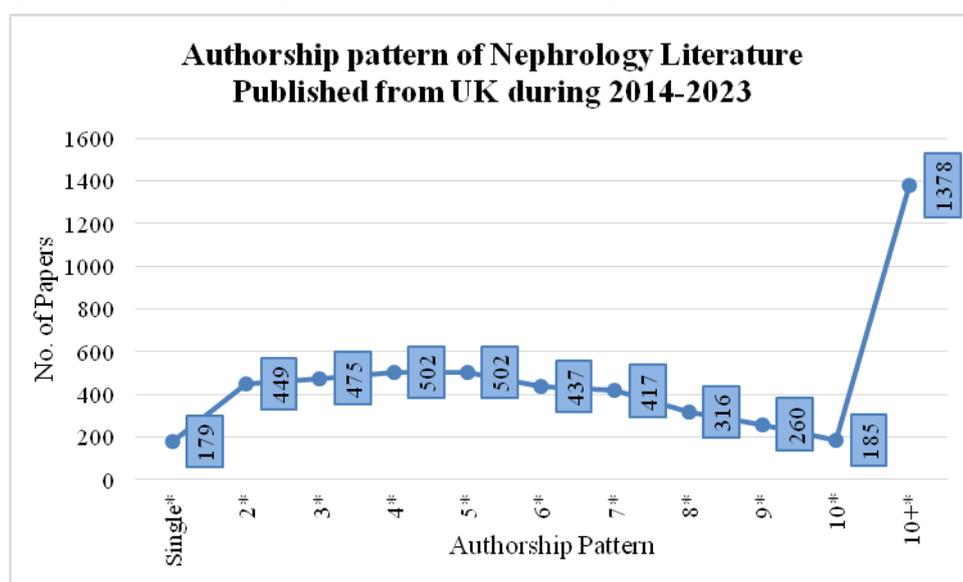


Figure 2: Authorship pattern of Nephrology Literature Published from UK during 2014-2023

The nephrology literature published from the United Kingdom between 2014 and 2023 exhibits a strong trend toward collaborative research, as evidenced by the dominance of multi-authored papers. Out of a total of 5,100 publications, only 179 (3.51%) were single-authored, while the majority—1,378 papers (27.02%)—had more than 10 authors, indicating the prevalence of large collaborative groups. The Mean Author per Paper (MAP) increased steadily, reaching a peak of 12.35 in 2023, compared to 7.76 in 2014. This suggests a consistent growth in collaborative efforts over the decade. The Degree of Collaboration (DC) remained high throughout the period, ranging from 0.95 to 0.99, with an overall average of 0.96, confirming the UK's strong emphasis on joint authorship. The Relative Single Authorship (RSA) value remained low (overall 0.04), further underlining the diminishing role of solo contributions in this domain. The Collaborative Coefficient (CC) and Modified Collaborative Coefficient (MCC) averaged 0.78 and 1.25, respectively, demonstrating a robust and stable collaborative culture. Notably, the Collaboration Index (CI)—which accounts for the average number of authors per joint publication—rose from 8.66

in 2014 to a peak of 11.49 in 2019, with a decadal average of 9.62, suggesting the increasing complexity and team-oriented nature of nephrology research in the UK. These findings reflect a progressive shift toward larger research teams and inter-institutional or international collaboration, which is characteristic of high-impact biomedical research in the modern era.

Year-wise Distribution of Papers in Different Channels of Communication Published from the United Kingdom during 2014-2023													
No	Channels of Communication	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	%
1	Nephrol. Dial. Transplant.	140	303	170	201	153	170	186	162	154	226	1865	36.57
2	Pediatr. Nephrol.	84	101	70	115	67	36	27	130	71	155	856	16.78
3	BMC Nephrol.	25	17	13	35	32	32	54	40	33	33	314	6.16
4	J. Am. Soc. Nephrol.	24	30	31	29	21	27	26	22	21	10	241	4.73
5	Clin. J. Am. Soc. Nephrol.	18	17	16	16	8	21	23	24	24	17	184	3.61
6	Nephrology	21	17	22	22	25	10	15	18	15	11	176	3.45
7	Kidney Int.	6		15	14	13	11	27	12	12	11	121	2.37
8	Nat. Rev. Nephrol.	8	11	7	11	7	16	13	16	12	15	116	2.27
9	Int. Urol. Nephrol.	8	13	10	11	7	8	11	14	13	10	105	2.06
10	J. Nephrol.	5	6	4	4	6	10	10	23	16	19	103	2.02
11	Curr. Opin. Nephrol. Hypertens.	6	5	6	7	9	8	6	8	7	10	72	1.41
12	Am. J. Transplant.	4	3	6	2	14	12	6	14	4	1	66	1.29
13	Am. J. Nephrol.	4	5	4	8	5	9	7	8	2	7	59	1.16
14	Minerva Urol. Nephrol.								14	17	21	52	1.02
15	Kidney Int. Rep.				3	5	5	6	6	11	13	49	0.96
16	BMJ Open		1	2	1	1	2	6	10	12	6	41	0.80
17	Semin. Nephrol.	3	5	1	9	4	8	2	2	3	3	40	0.78
18	Clin. Nephrol.	4	6	4	2	5	4	1	1	5	3	35	0.69
19	Kidney Int. Suppl.			1	6	6		9	12			34	0.67
20	Am. J. Kidney Dis.	2		5	5	2		3	6	1	1	25	0.49
21	Clin. Kidney J.			3	1	4	2	1	1	5	3	20	0.39
22	Sci Rep			2	6		3	2	3	2	1	19	0.37
23	Perit. Dial. Int.	1	1		2	3		2	5	2	1	17	0.33
24	Arch. Dis. Child.				1	1			6	3	4	15	0.29
25	Nephron		4	3	2	3	2	1				15	0.29
26	PLoS One		1	4	2		1	2	1	3	1	15	0.29
27	Clin. Exp. Nephrol.	1		2	1	1	3	1	3	2		14	0.27
28	Contrib.Nephrol.	2	2	1	3	3	3					14	0.27
29	Transplantation		1		2	3	2		1	2		11	0.22
30	Hemodial. Int.	1			2	2	1	1	1			8	0.16
31	Lancet	1	1	1	4			1				8	0.16
32	Nephrol. Nurs. J.	1		1	2					3	1	8	0.16
33	Blood Purif.	1			1		1	1	1		2	7	0.14
34	Eur. J. Clin. Nutr.	1	1	1	2	2						7	0.14
35	Int. J. Artif. Organs		1	1		1	1	1	1	1		7	0.14
36	Ann. Rheum. Dis.	1		1	2					1	1	6	0.12

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37	RHEUMATOLOGY		1	1		1		2		1		6	0.12
38	Arch. Dis. Childhood-Educ. Pract. Ed.	1				1				2	1	5	0.10
39	J. Renal Nutr.	1				1				2	1	5	0.10
40	Nat. Commun.						1	1	1		2	5	0.10
41	BMJ Paediatr. Open				1				2	1		4	0.08
42	BMJ-British Medical Journal						3				1	4	0.08
43	Clin. Med.	1	1					1	1			4	0.08
44	Diabetes Care	1		1				1		1		4	0.08
45	Eur. J. Pediatr.						1		1	1	1	4	0.08
46	Front. Pediatr.					2		1	1			4	0.08
47	J. Hum. Nutr. Diet.					3		1				4	0.08
48	J. Ren. Care			1		1					2	4	0.08
49	Ther. Apher. Dial.					1	1	1	1			4	0.08
50	Transpl. Int.				1					1	2	4	0.08
51	Trials		1	1	1				1			4	0.08
52	BMJ Glob. Health						1	1	1			3	0.06
53	Br. J. Hosp. Med.					1		1			1	3	0.06
54	Front. Immunol.							1			2	3	0.06
55	Front. Med.				1				1	1		3	0.06
56	Front. Physiol.				1			1	1			3	0.06
57	Intensive Care Med.				2					1		3	0.06
58	J. Am. Coll. Cardiol.					1	1		1			3	0.06
59	J. Clin. Med.		1						1		1	3	0.06
60	JAMA Netw. Open							1		2		3	0.06
61	Nature Genet.	1			1						1	3	0.06
62	Nutr. Clin. Pract.			1	1	1						3	0.06
63	Pediatr. Transplant.				1				1	1		3	0.06
64	Semin. Dial.	1					1			1		3	0.06
65	Stroke						1	1	1			3	0.06
66	Two Articles published in 68 Different journals	7	6	6	4	8	11	6	6	9	5	68	1.33
67	Each Article was Published in 180 Different Journals	11	13	23	12	19	17	13	20	28	24	180	3.53
	Grand Total	396	575	441	560	453	446	484	606	509	630	5100	100.00

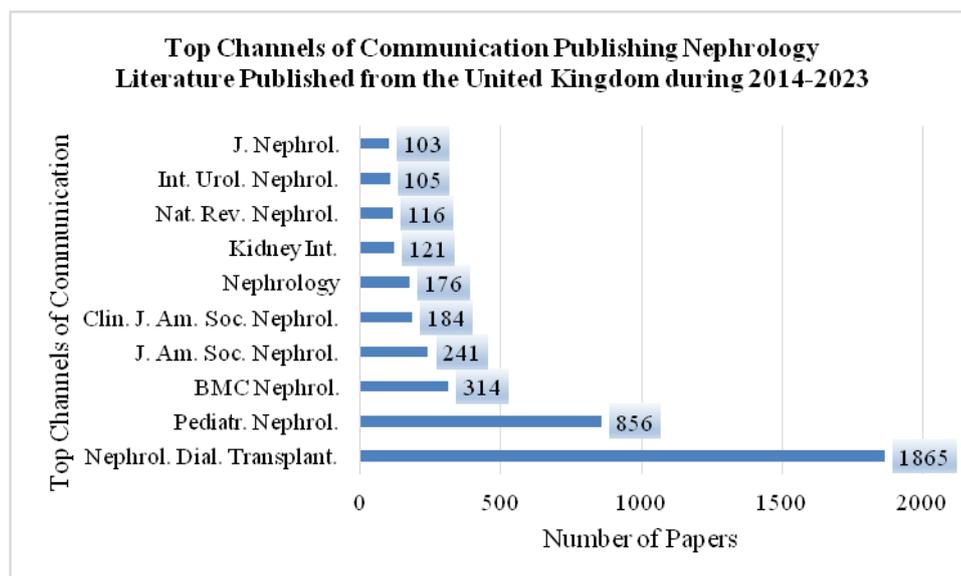


Figure 3: Top Channels of Communication Publishing Nephrology Literature Published from the United Kingdom during 2014-2023

The decade-long analysis (2014–2023) of nephrology literature from the United Kingdom reveals significant trends in scholarly communication across a diverse array of journals. A total of 5100 papers were published in over 300 distinct journals, reflecting both the breadth and depth of nephrology research dissemination from the UK. The most prominent publication channel was Nephrology Dialysis Transplantation (Nephrol. Dial. Transplant.), which alone accounted for 1865 publications (36.57%), indicating its central role as the preferred platform for UK nephrologists. Pediatric Nephrology followed, contributing 856 papers (16.78%), showcasing the UK's strong focus on pediatric renal research. Other journals with notable contributions include BMC Nephrology (314 papers, 6.16%), Journal of the American Society of Nephrology (241 papers, 4.73%), and Clinical Journal of the American Society of Nephrology (184 papers, 3.61%). These journals represent a mixture of UK-based and international platforms, indicating a globally collaborative approach to nephrology research. Mid-tier journals such as Nephrology, Kidney International, Nature Reviews Nephrology, and International Urology and Nephrology collectively hosted several hundred papers, further diversifying the research outlets. In contrast, a long tail of journals—including BMJ Open, Seminars in Nephrology, Clinical Nephrology, and Kidney International Reports—captured fewer publications, often under 1% each of the total output, yet they still played an essential role in reaching niche or interdisciplinary audiences. Notably, 248 articles were distributed across 68 journals with exactly two publications each, and an additional 180 journals had single contributions, highlighting the scattered nature of lesser-known or emerging publication venues. In terms of yearly distribution, the number of publications grew significantly from 396 in 2014 to 630 in 2023, showing an overall increasing trend with fluctuations. The highest output was seen in 2023 (630 papers), possibly reflecting a post-pandemic research surge or increased funding and collaboration initiatives. The years 2021 and 2017 also saw high output with 606 and 560 papers, respectively. This upward trajectory suggests a sustained growth in nephrology research in the UK and an expanding network of international publication channels.

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Table 2: Year-wise Distribution of Nephrology Literature Published from the UK during 2014-2023

Year-wise Distribution of Nephrology Literature Published from the UK during 2014-2023					
S. No.	Year	No. of Papers	%	Cumulative	Cum. %
1	2014	396	7.76	396	7.76
2	2015	575	11.27	971	19.04
3	2016	441	8.65	1412	27.69
4	2017	560	10.98	1972	38.67
5	2018	453	8.88	2425	47.55
6	2019	446	8.75	2871	56.29
7	2020	484	9.49	3355	65.78
8	2021	606	11.88	3961	77.67
9	2022	509	9.98	4470	87.65
10	2023	630	12.35	5100	100.00
	Total	5100	100.00		

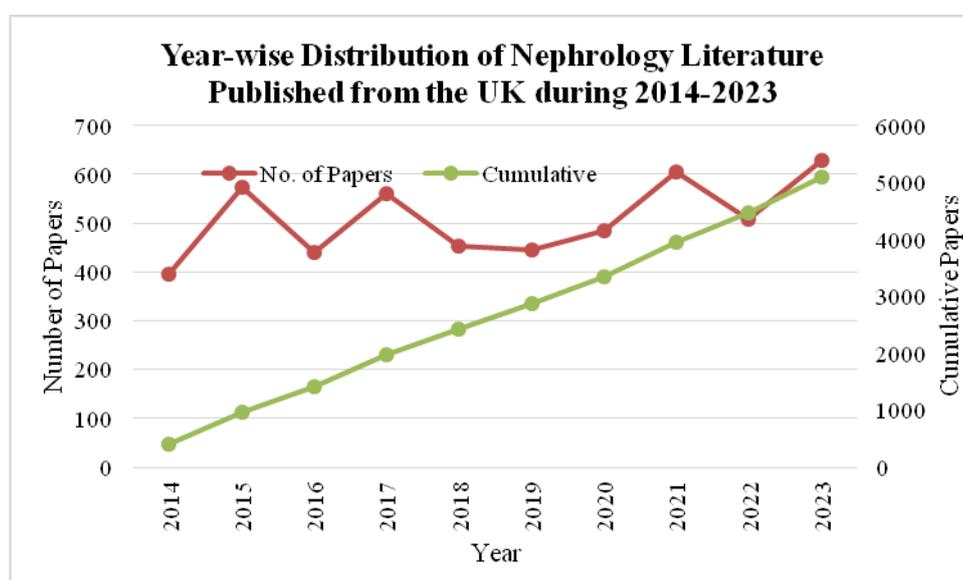


Figure 4: Year-wise Distribution of Nephrology Literature Published from the UK during 2014-2023

The publication trend of nephrology literature from the United Kingdom between 2014 and 2023 exhibits a generally upward trajectory, with some fluctuations across the decade. The total number of papers published during this period stands at 5100, with annual contributions ranging from 396 papers in 2014 (7.76%) to a peak of 630 papers in 2023 (12.35%), which marks the highest output year. The data indicates a notable surge in productivity during 2021 (606 papers, 11.88%) and 2015 (575 papers, 11.27%), likely driven by renewed research momentum post-COVID-19 and increased funding or collaboration in specific years. The cumulative output reveals that by 2019, more than half the literature (56.29%) had already been published, and the remaining years further accelerated growth, culminating in a full 100% by 2023. This growth reflects a consistent and expanding engagement of UK researchers in nephrology, with particularly strong momentum in the latter half of the decade. The sustained increase

may also be attributed to evolving clinical challenges, collaborative global research, and advancements in nephrology diagnostics and therapeutics.

Table 3: Year-wise Distribution of Citations & References of Nephrology Literature Published from the UK during 2014-2023

Year-wise Distribution of Citations & References of Nephrology Literature Published from the UK during 2014-2023										
S. No.	Year	No. of Papers	Cum. Citations	No. Papers	Cum. Papers	Citation/ Paper	No. of Reference	Cum. References	%	Reference/ Paper
1	2014	14412	14412	396	396	36.39	11163	11163	8.26	28.19
2	2015	10160	24572	575	971	17.67	10759	21922	7.96	18.71
3	2016	11285	35857	441	1412	25.59	10721	32643	7.94	24.31
4	2017	14846	50703	560	1972	26.51	14109	46752	10.44	25.19
5	2018	10203	60906	453	2425	22.52	12262	59014	9.08	27.07
6	2019	12457	73363	446	2871	27.93	13520	72534	10.01	30.31
7	2020	8691	82054	484	3355	17.96	13105	85639	9.70	27.08
8	2021	6978	89032	606	3961	11.51	16318	101957	12.08	26.93
9	2022	3632	92664	509	4470	7.14	16455	118412	12.18	32.33
10	2023	1739	94403	630	5100	2.76	16694	135106	12.36	26.50
	Total	94403		5100		18.51	135106		100.00	26.49

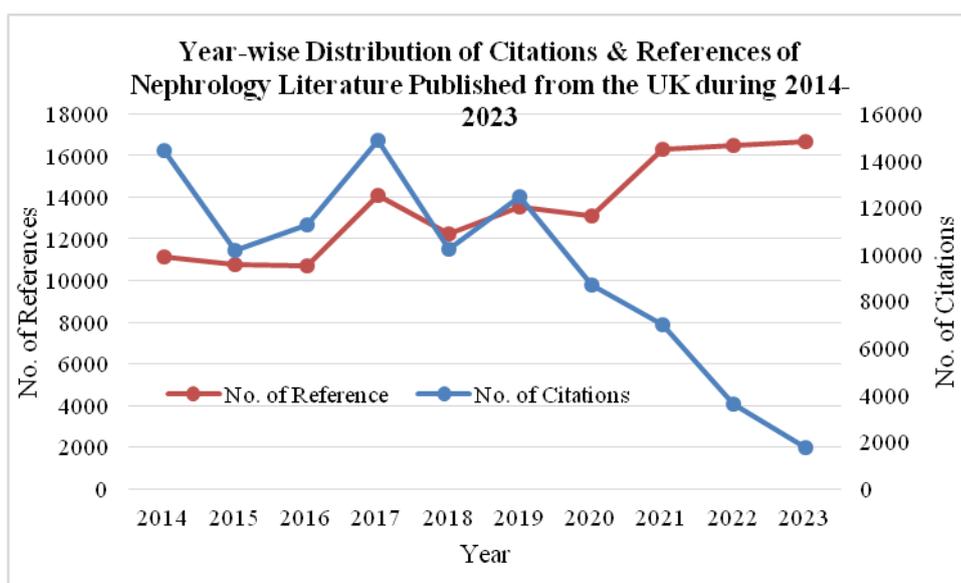


Figure 5: Year-wise Distribution of Citations & References of Nephrology Literature Published from the UK during 2014-2023

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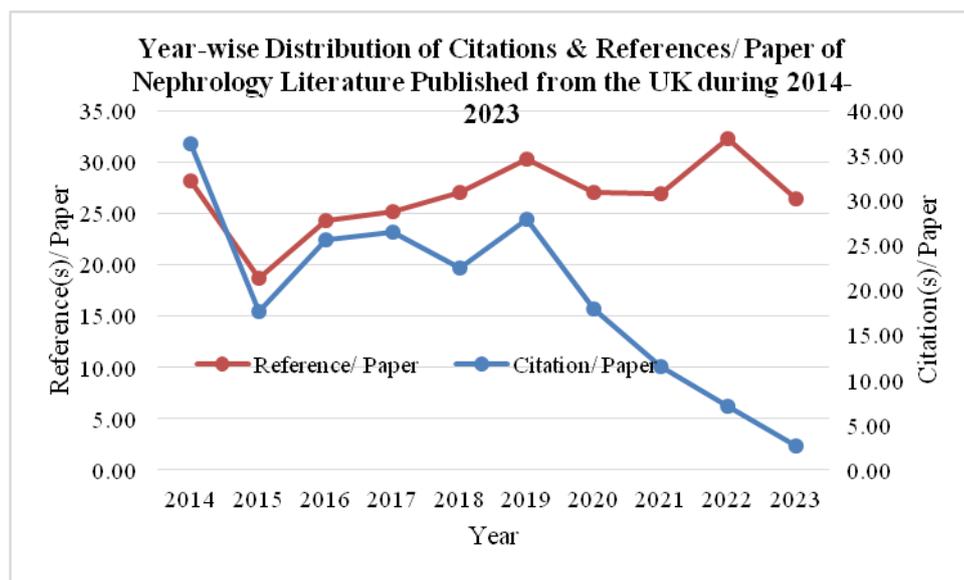


Figure 6: Year-wise Distribution of Citations & References/ Paper of Nephrology Literature Published from the UK during 2014-2023

The citation and referencing patterns of nephrology literature from the UK over the decade (2014–2023) reveal important insights into the impact and scholarly engagement of the published works. A total of 94,403 citations were accumulated by 5100 papers, resulting in an average of 18.51 citations per paper, which indicates a moderate to strong citation impact overall. Notably, the earliest year, 2014, recorded the highest citation-to-paper ratio at 36.39, owing to the longer time available for citations to accrue. Similarly, years like 2016 (25.59), 2017 (26.51), and 2019 (27.93) also had strong citation rates, reflecting the lasting scholarly relevance of research published during those periods. In contrast, the most recent years, particularly 2022 (7.14) and 2023 (2.76), had lower citation averages, which is expected due to the shorter time window for citations to be gathered. Regarding referencing, a total of 135,106 references were cited across all publications, averaging 26.49 references per paper, indicating rigorous engagement with existing literature. The year 2022 had the highest reference-per-paper ratio at 32.33, suggesting more extensive literature reviews or complex research designs, followed closely by 2019 (30.31). The share of references increased steadily, with the last three years (2021–2023) contributing over 36% of the total references, highlighting the increasing depth and breadth of scholarly engagement in recent publications. Overall, the data reflect a trend of high-quality, well-referenced research output from the UK nephrology community, with consistent scholarly impact across the decade, and a notable increase in reference richness in recent years.

Block-wise Distribution of RGR, Dt, and Annual Ratio of Growth and Annual Growth Rate Observed in Nephrology Literature										
Block-wise Distribution of RGR and Dt Found in Nephrology Literature								Annual Ratio of Growth and Annual Growth Rate		
Block	Period	No. of Papers	Cum. Papers	log1	log2	RGR	Dt	No. of Paper	ARoG	AGR
1	2014-15	971	971	0	6.87833	0	0	971		
2	2016-17	1001	1972	6.87833	7.5868	0.71	0.98	1001	1.031	0.031

3	2018-19	899	2871	7.5868	7.96242	0.38	1.84	899	0.898	-0.102
4	2020-21	1090	3961	7.96242	8.28425	0.32	2.15	1090	1.212	0.212
5	2022-23	1139	5100	8.28425	8.537	0.25	2.74	1139	1.045	0.045

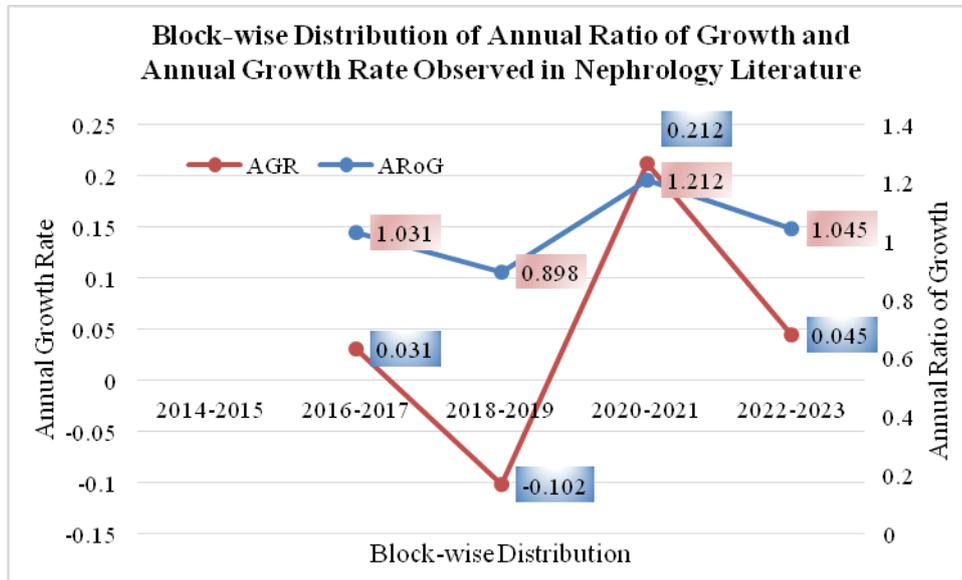


Figure 7: Block-wise Distribution of Annual Ratio of Growth and Annual Growth Rate Observed in Nephrology Literature

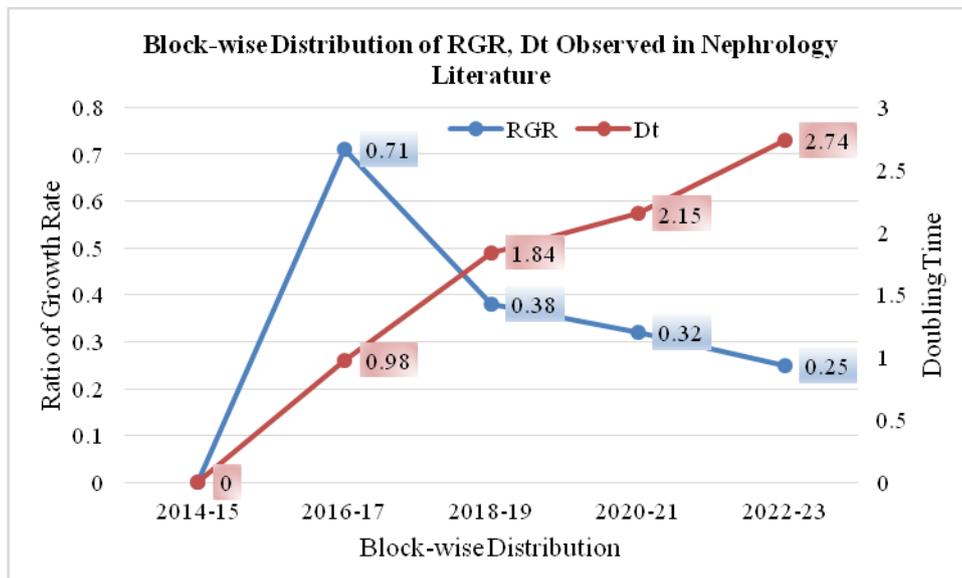


Figure 8: Block-wise Distribution of RGR, Dt Observed in Nephrology Literature

The block-wise growth of nephrology literature published from the United Kingdom between 2014 and 2023 shows a dynamic trend in scientific productivity, measurable through bibliometric indicators such as Relative Growth Rate (RGR) and Doubling Time (Dt). The RGR, which indicates the rate of increase in cumulative publications, is

$$RGR = \frac{\log_e N_2 - \log_e N_1}{t_2 - t_1}$$

calculated using the formula

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Where, N_1 and N_2 represent the cumulative number of papers at the beginning and end of a block, and t_1 & t_2 are the time intervals (typically 2 years). In the initial block (2014–15), since it marks the starting point, RGR was 0. In the second block (2016–17), RGR rose to 0.71, indicating strong early growth. However, RGR steadily declined in the following blocks — to 0.38 in 2018–19, 0.32 in 2020–21, and finally 0.25 in 2022–23 — showing a gradual slowdown in the rate of publication growth. This deceleration is also evident in the Doubling Time (Dt), which estimates how long it would take for the cumulative publications to double at the current growth rate. Dt is inversely related to RGR and is computed as $Dt = \frac{0.693}{RGR}$. As the RGR declined, Dt increased — from 0.98 years in the

2016–17 block to 2.74 years by 2022–23, indicating that the body of literature is taking progressively longer to double.

Further, the Annual Ratio of Growth (ARoG) measures the relative increase in the number of papers from one block to the next, calculated by

Where N_t is the number of papers in the current block and N_{t-1} in the previous block. The ARoG dropped to 0.898 in 2018–19 (indicating a decline), peaked at 1.212 in 2020–21 (reflecting strong growth likely due to post-pandemic output), and moderated to 1.045 in 2022–23. Lastly, the Annual Growth Rate (AGR) expresses the percentage increase or decrease in output and is given by the formula

The AGR varied significantly: it was +3.1% in 2016–17, dipped to –10.2% in 2018–19, surged to +21.2% in 2020–21, and stabilized at +4.5% in the final block. These fluctuations point to a research field that is evolving from rapid early expansion to a more stable phase of growth, a typical pattern seen in mature academic disciplines.

$$AGR = \left(\frac{N_t - N_{t-1}}{N_{t-1}} \right) \times 100$$

CONCLUSION

This bibliometric analysis provides a comprehensive overview of nephrology research output from the United Kingdom over the past decade. The study reveals a consistent increase in publication volume, with peak output observed in 2023. Leading journals such as Nephrology Dialysis, Transplantation, and Pediatric Nephrology served as primary communication channels, reflecting the focus areas of UK researchers. Citation and reference trends indicate a steady improvement in scholarly depth and research visibility, although recent publications show lower citation counts due to limited exposure time. Authorship analysis highlights the prevalence of multi-authored collaborative research, indicating strong institutional and international partnerships. Growth metrics such as Relative Growth Rate (RGR) and Annual Growth Rate (AGR) show initial expansion followed by gradual stabilization, suggesting that the field is moving toward maturity. Overall, the findings underscore the UK's significant and sustained contribution to global nephrology research and offer valuable insights for future research planning and policy development.

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