

# A Bibliometric Analytical Research on Ucare's Impact in Boosting Chronic Urticaria Research and Collaboration

## Ucare'nin Kronik Ürtiker Araştırmalarını ve İş Birliğini Geliştirme Üzerindeki Etkisi Üzerine Bibliyometrik ve Analitik Araştırma

<sup>1</sup>Melih AKYOL<sup>a</sup>, <sup>2</sup>Gülay DEMİR<sup>b</sup>

<sup>a</sup>Sivas Cumhuriyet University Faculty of Medicine, Department of Skin and Venereal Diseases, Sivas, Türkiye

<sup>b</sup>Sivas Cumhuriyet University Health Services Vocational School, Department of Medical Services and Techniques, Department of Medical Documentation and Secretarial, Sivas, Türkiye

**ABSTRACT Objective:** Urticaria Centers of Reference and Excellence (UCARE) was established in 2016 with the aim of promoting global collaboration, coordination, and research on urticaria. This bibliometric analysis seeks to assess the impact of the UCARE on the scientific literature and international collaboration concerning chronic urticaria. **Material and Methods:** A bibliometric analysis was performed. Scopus database contains journal name, h-index matrix, citation matrices, etc., which enable effective bibliometric analysis. The information is retrieved from the selected database and evaluated by filtering with "inclusion" and "exclusion". Given that UCARE was established in 2016, the comparison was conducted by dividing the time periods into pre-2016 and post-2016 intervals. The 1st of the 2 time intervals for the query was determined as 2016-2023 and the second as 2008-2015, and the data were downloaded on February 14, 2024. **Results:** The study reveals a significant increase in international collaborations and a global impact considering countries from different regions of the world in the post-UCARE period. The analysis also identifies Maurer M. as a leading author in both periods. The results particularly highlight a positive change in multidisciplinary approaches in the fields of dermatology and allergy. Additionally, topics such as "chronic spontaneous urticaria, pruritus, disease activity, and follow-up" have been more frequently addressed in recent literature. **Conclusion:** These findings emphasize the role of UCARE in enhancing global research efforts and contributing to the advancement of scientific discourse on chronic urticaria.

**ÖZET Amaç:** Ürtiker Referans ve Mükemmeliyet Merkezleri [Urticaria Centers of Reference and Excellence (UCARE)], 2016 yılında ürtiker üzerine küresel iş birliğini, koordinasyonu ve araştırmaları teşvik etmek amacıyla kurulmuştur. Bu bibliyometrik analiz, UCARE'in bilimsel literatür ve kronik ürtikerle ilgili uluslararası iş birlikleri üzerindeki etkisini değerlendirmeyi amaçlamaktadır. Gereç ve Yöntemler: Bir bibliyometrik analiz yapılmıştır. Scopus veri tabanı, dergi adı, h-indeks matrisi, atıf matrisleri gibi bibliyometrik analizleri etkili bir şekilde gerçekleştirmeye olanak tanıyan verileri içermektedir. Bilgiler seçilen veri tabanından alınmış ve "dâhil etme" ve "hariç tutma" kriterlerine göre filtrelenerek değerlendirilmiştir. UCARE'in 2016 yılında kurulduğu göz önüne alındığında, karşılaştırma 2016 öncesi ve sonrası dönemler olarak 2'ye ayrılmıştır. Analizde 2 zaman aralığından ilki 2016-2023, ikincisi ise 2008-2015 olarak belirlenmiş ve veriler 14 Şubat 2024 tarihinde indirilmiştir. Bulgular: Çalışma, UCARE sonrası dönemde uluslararası iş birliklerinde ve dünyanın farklı bölgelerinden ülkelerin katılımıyla küresel etkide önemli bir artış olduğunu ortaya koymaktadır. Analiz, her iki dönemde de Maurer M.'nin önde gelen bir yazar olduğunu belirlemiştir. Sonuçlar, özellikle dermatoloji ve alerji alanlarında multidisipliner yaklaşımlarda olumlu bir değişimi vurgulamaktadır. Ayrıca, "kronik spontan ürtiker, pruritus, hastalık aktivitesi ve takip" gibi konuların son literatürde daha sık ele alındığı görülmüştür. Sonuç: Bu bulgular, UCARE'in küresel araştırma çabalarını artırmadaki ve kronik ürtiker konusundaki bilimsel tartışmalara katkıda bulunmadaki rolünü vurgulamaktadır.

**Keywords:** Chronic urticaria; urticaria; bibliometric analysis; biblioshiny; UCARE; management

Chronic urticaria is a long-lasting skin condition characterized by itching and hives. Most cases of chronic urticaria appear for unknown reasons and can persist for a long time. This condition can

cause significant discomfort and stress, both physically and psychologically. Managing chronic urticaria requires proper diagnosis and effective treatment plans.<sup>1</sup>

**Correspondence:** Melih AKYOL

Sivas Cumhuriyet University Faculty of Medicine, Department of Skin and Venereal Diseases, Sivas, Türkiye

**E-mail:** melakyoll@gmail.com



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In order to provide extensive worldwide access, Urticaria Centers of Reference and Excellence (UCARE) was established in 2016 with the goal of creating and accrediting an interactive network of centers of excellence and reference in urticaria. This global network of urticaria professionals' main objectives are to harmonize urticaria management, promote urticaria research, especially by strengthening international collaboration, and increase awareness of urticaria through education and research.<sup>2</sup>

The study of scientific publications' quantitative analysis and evaluation is known as bibliometrics. Bibliometric analysis uses different metrics of publications in a subject or field to help us identify trends, patterns, and interactions in scientific communication.<sup>3</sup> One of the approaches used to clarify the connections between the many parties involved in scientific communication and determine the degrees of contribution from each of these parties is bibliometric research. Bibliometric mapping techniques are used to illustrate the literature review, and visual maps are used to identify important trends. Recent years have shown that bibliometric data and visual network mapping are useful to all scientific areas. One of the main benefits of this approach is that the findings of these investigations offer a solid knowledge base for the creation of new research techniques. Additionally, it can supply data for evaluating the impact of institutional structures established to foster scientific advancement and collaboration in the research areas being studied.<sup>4</sup>

Even though there have been bibliometric analyses on chronic urticaria, these research often cover the basic goals of bibliometric analysis.<sup>5-7</sup> However, the literature lacks a thorough and regular analysis that particularly assesses the impact of UCARE. Using bibliometric analysis, this study seeks to ascertain the shifts, patterns, and cooperative effects in the international literature on chronic urticaria since UCARE's founding.

## MATERIAL AND METHODS

The process steps of bibliometric analysis, a powerful technique for tracking research trends and discoveries, are as follows:<sup>3,8</sup>

Step 1: Selecting a database. Scopus, Web of Science (WoS), MEDLINE, Cochrane Library, PubMed, Science Direct, IEEE Xplore, EBSCO, Taylor & Francis and Springer are among the accessible data sources. The international database "Scopus" was utilized as the data source for this study. Scopus database contains journal name, h-index matrix, citation matrices, etc., which enable effective bibliometric analysis. It is equipped with operating functions such as.<sup>9</sup>

Step 2: Filtering the information in the database. The information is retrieved from the selected database and evaluated by filtering with "inclusion" and "exclusion". The 1<sup>st</sup> of the 2 time intervals for the query was determined as 2016-2023 and the 2<sup>nd</sup> as 2008-2015, and the data were downloaded on February 14, 2024.

The inclusion criteria: Keywords: blockchain, supply chain; document type: Article; publication language: English; form of publication: Journal; year of publication: 2016-2023 and 2008-2015.

**The exclusion criteria:** Review and conference proceedings, book chapters, articles, or reviews published on preprint websites, as well as comments, editorials, and letters.

Data were downloaded in .csv format and sorted from most to least cited. In the 1<sup>st</sup> stage, 2,840 articles were screened for 2016-2023 (post 2016). When the inclusion and exclusion criteria were applied, 1,611 studies were included in the analysis. For 2008-2015 (pre-2016), 1,585 articles were screened. When the inclusion and exclusion criteria were applied, 767 studies were included in the analysis.

Step 3: Selection of software for bibliometric analysis. One or more of the software, such as RStudio (Biblioshiny), VOSviewer, CiteSpace, Sci2, Pajek, and Gephi, is selected to perform bibliometric analysis. In this study, the R bibliometrics library developed for bibliometric analysis was used.<sup>10</sup>

Step 4: Determining the bibliometric analysis. With the performance analysis of the studies, the main information, annual status of publications, annual status of citations, 3 area graphs, status of journals, membership status, status of authors, status of countries, and status of articles were determined. Sci-

entific mapping usually visually reveals the relationships between texts, similarities or differences between topics, trends in publications, and the importance of key concepts.<sup>8</sup> For this purpose, conceptual structure maps, thematic maps, and trend topics are applied. In this study, performance analysis, which allows publications to be evaluated with a detailed descriptive analysis, and scientific mapping analysis, which allows researchers to visually explore and analyse data and communicate their results more effectively, were used.

## RESULTS

### PERFORMANCE ANALYSIS

A detailed descriptive analysis of publications, assessment of the annual publication growth rate, and estimation of the average number of citations per

publication were carried out for both pre-2016 and post-2016. The Three Field Plot, also known as the Sankey diagram, was used to compare the 3 different fields, including determining which journal has the most publications and citations, as well as which organization and document has the most publications and citations. The study also finds and analyses the author and country with the largest production in terms of publications, citations, and data performance analysis.

### GENERAL REVIEW OF THE DATABASE

Biblioshiny was used to perform descriptive analyses of chronic urticaria. Table 1 shows the primary information in the data file pre-2016 and post-2016.

#### Annual Publication Increase

Figure 1 shows the evolution of published articles on chronic urticaria over time.

TABLE 1: Main information for publications.

Category	Metric	Before UCARE (2008-2015)	After UCARE (2016-2023)	% Change
General information	Sources	285	457	+60.35%
	Documents	734	1570	+113.95%
	Annual growth rate (%)	8.02%	6.07%	-24.32%
Authors and collaboration	Authors	2,937	6,880	+134.27%
	Single-authored documents	52	48	-7.69%
	International Co-authorship (%)	12.81%	20.32%	+58.66%
	Co-authors per document	5.39	6.91	+28.20%
Keywords and references	Author keywords	1237	2484	+100.73%
	References	18,220	41554	+128.09%
Document metrics	Average document age	12.1	4.15	-65.70%
	Average citations per document	32.24	13.5	-58.12%

UCARE: Urticaria Centers of Reference and Excellence.

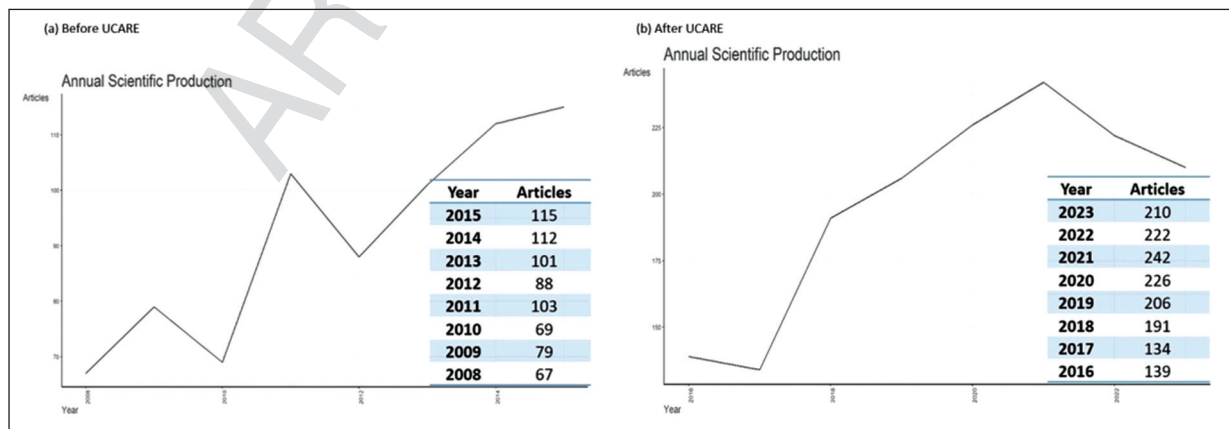


FIGURE 1: The evolution of published articles on chronic urticaria over time.

The annual citation status of chronic urticaria studies is shown in Figure 2.

### Three Field Plot

The program specifies the 3 factors to be related (country, author, and keyword) in this “Three Field Plot” arrangement, with Figure 3 displaying the most relevant ones for each. The box sizes in Figure 3 represent the strength of the relationship between the components. The size of the boxes in this graph corresponds to the influential characteristics of the literature.

### MOST PUBLISHED AND MOST CITED JOURNALS

Before UCARE, the top journal was the Annals of Allergy, Asthma and Immunology with 36 articles. After UCARE, the Journal of Allergy and Clinical Immunology: In Practice became the most popular,

publishing 120 articles. The 2<sup>nd</sup> most popular journal before UCARE was the Allergy: European Journal of Allergy and Clinical Immunology with 26 articles. Post-UCARE, this rank was taken over by Annals of Allergy, Asthma and Immunology with 51 articles. In the third position before UCARE was the Journal of Allergy and Clinical Immunology with 26 articles, while post-UCARE, the International Archives of Allergy and Immunology took this spot with 49 articles. Fourth place was held by the Journal of the European Academy of Dermatology and Venereology with 21 articles before UCARE, but after UCARE, Dermatologic Therapy took over with 41 articles. The International Archives of Allergy and Immunology was the 5<sup>th</sup> journal before UCARE with 19 articles. After UCARE, the Journal of Allergy and Clinical Immunology ranked 5<sup>th</sup> with 38 articles.

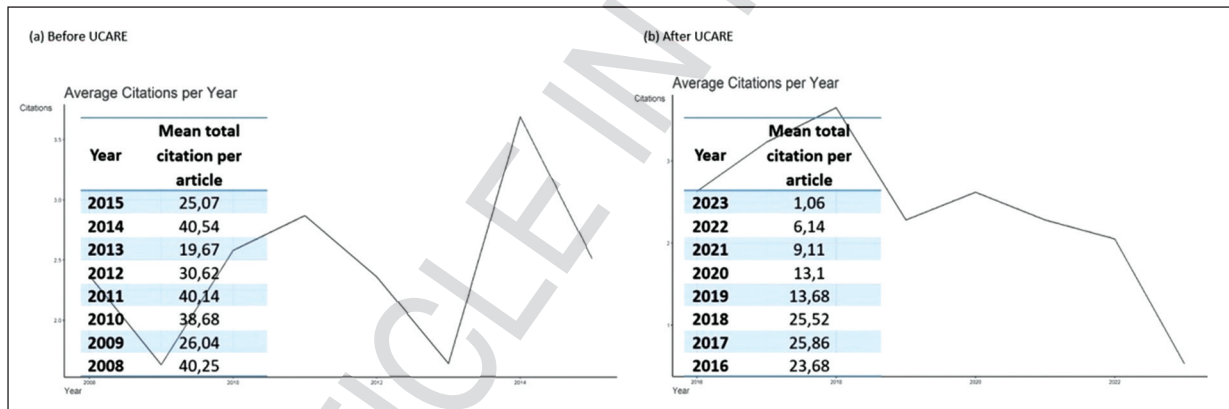


FIGURE 2: Annual mean citation increase trend of studies conducted in chronic urticaria.

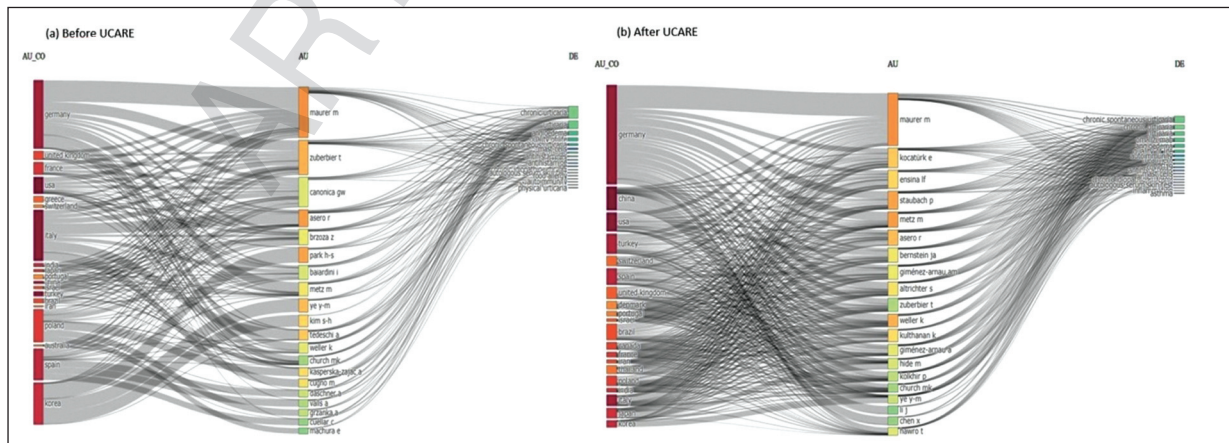


FIGURE 3: Three-field plot for chronic urticaria.

The top journal before UCARE was the Journal of Allergy and Clinical Immunology with 2,259 citations. After UCARE, the Allergy journal became the most cited with 4,436 citations. The 2<sup>nd</sup> most cited journal before UCARE was Allergy with 1,541 citations. After UCARE, this position was taken by the Journal of Allergy and Clinical Immunology with 3,583 citations. British Journal of Dermatology held the 3<sup>rd</sup> position both before and after UCARE, with citations increasing from 873 to 1,536. Before UCARE, the 4<sup>th</sup>-ranked journal was Clinical and Experimental Allergy with 536 citations. Post-UCARE, the Annals of Allergy, Asthma and Immunology occupied this spot with 1,042 citations. The 5<sup>th</sup> position before UCARE was held by the Annals of Allergy, Asthma and Immunology with 485 citations, whereas after UCARE, the Journal of Allergy and Clinical Immunology: In Practice took over with 1,005 citations.

## THE AFFILIATIONS THAT MATTER MOST

Table 2 shows the institutions or affiliations of authors who contributed to published studies on chronic urticaria.

## MOST PUBLISHED AND MOST CITED

Table 3 lists the most influential authors by number of publications in terms of chronic urticaria publications worldwide.

The ranking of authors according to total citations (TC) for chronic urticaria is given in Table 4.

## THE MOST PRODUCTIVE COUNTRIES

Figure 4 shows the countries with the highest number of publications and citations related to chronic urticaria. The dark blue, blue, and grey colours on the map indicate the country with the most publications, the country with fewer publications, and the country with no publications, respectively.

**TABLE 2:** Institutions and affiliations of authors for studies on chronic urticaria.

Rank	Affiliation (before UCARE)	Articles (before)	Affiliation (after UCARE)	Articles (after)
Top	Ajou University School of Medicine	103	Charité-Universitätsmedizin Berlin	169
2 <sup>nd</sup>	Medical University of Silesia	75	Central South University	117
3 <sup>rd</sup>	Charité-Universitätsmedizin Berlin	48	Charité-Universitätsmedizin Berlin	110
4 <sup>th</sup>	Central South University	32	Mahidol University	101
5 <sup>th</sup>	Charité-Universitätsmedizin Berlin	32	Ajou University School of Medicine	98
6 <sup>th</sup>	Hiroshima University	30	Charité-Universitätsmedizin Berlin	80
7 <sup>th</sup>	Seoul National University College of Medicine	28	Istanbul University	78
8 <sup>th</sup>	Tehran University of Medical Sciences	28	University of Messina	67
9 <sup>th</sup>	Istanbul University	27	Charité-Universitätsmedizin Berlin	64
10 <sup>th</sup>	University of Pisa	25	Chengdu University of Traditional Chinese Medicine	55

**TABLE 3:** Most influential authors in terms of chronic urticaria.

Rank	Author (before UCARE)	NP (before)	Author (after UCARE)	NP (after)
Top	Maurer M.	48	Maurer M.	141
2 <sup>nd</sup>	Asero R.	25	Metz M.	38
3 <sup>rd</sup>	Park H-S.	24	Staubach P.	37
4 <sup>th</sup>	Zuberbier T.	22	Weller K.	36
5 <sup>th</sup>	Ye Y-M.	20	Asero R.	32
6 <sup>th</sup>	Tedeschi A.	17	Kocatürk E.	30
7 <sup>th</sup>	Kim S-M.	16	Ensina LF.	27
8 <sup>th</sup>	Kasperska-Zajac A.	15	Kulthanan K.	27
9 <sup>th</sup>	Cugno M.	14	Altrichter S.	26
10 <sup>th</sup>	Metz M.	14	Bernstein JA.	26

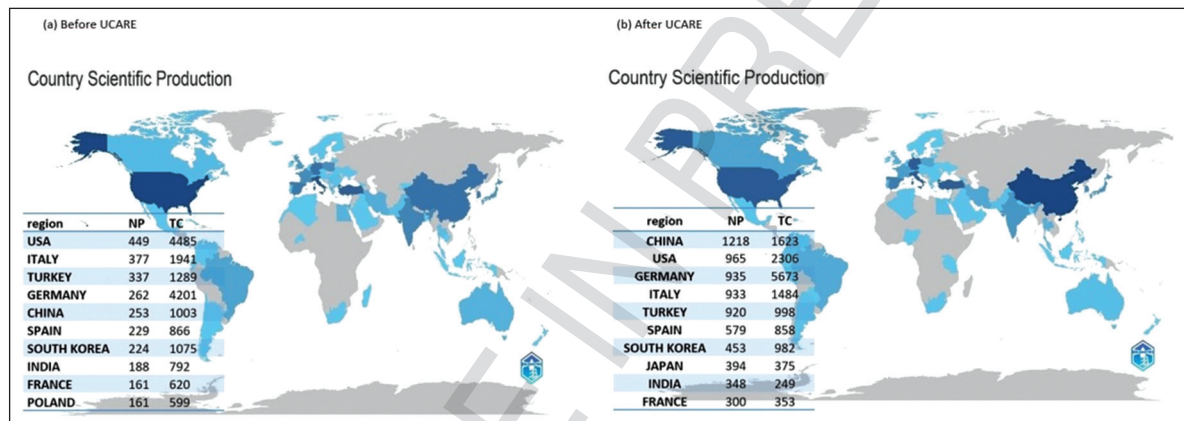
NP: number of publications.

**TABLE 4:** Authors according to total citations.

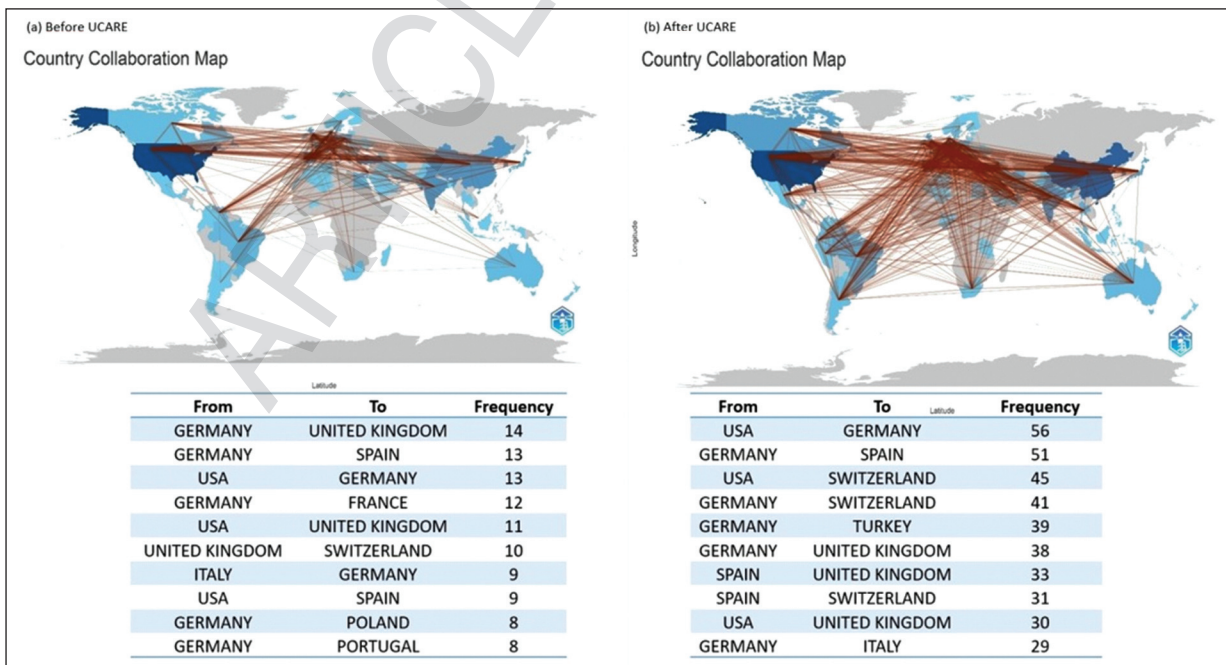
Rank	Author (Before UCARE)	TC	Author (After UCARE)	TC
Top	Maurer M.	93	Maurer M.	148
2 <sup>nd</sup>	Hiruma M.	68	Metz M.	41
3 <sup>rd</sup>	Abdollahee A.	62	Weller K.	40
4 <sup>th</sup>	Dastgheib L.	62	Staubach P.	39
5 <sup>th</sup>	Jowkar F.	62	Asero R.	35
6 <sup>th</sup>	Namaz MR.	62	Kocatürk E.	32
7 <sup>th</sup>	Greaves MW.	56	Bernstein JA.	29
8 <sup>th</sup>	Rymer J.	56	Ensina LF.	29
9 <sup>th</sup>	Wingate-Saul L.	56	Altrichter S.	28
10 <sup>th</sup>	Asero R.	50	Kulthanan K.	28

TC: total citations.

Figure 5 shows a global collaboration map of countries for chronic urticaria. The term “collaboration map of countries” is a visual created in programmes such as Biblioshiny to show scientific research collaborations between different countries. Such a map can be used to showcase collaborations between researchers or institutions in different countries for the purpose of academic research. A collaboration map of countries typically presents a graph showing the level of collaboration between countries using a network-based visualization method. Relationships between countries are indicated by brown lines.



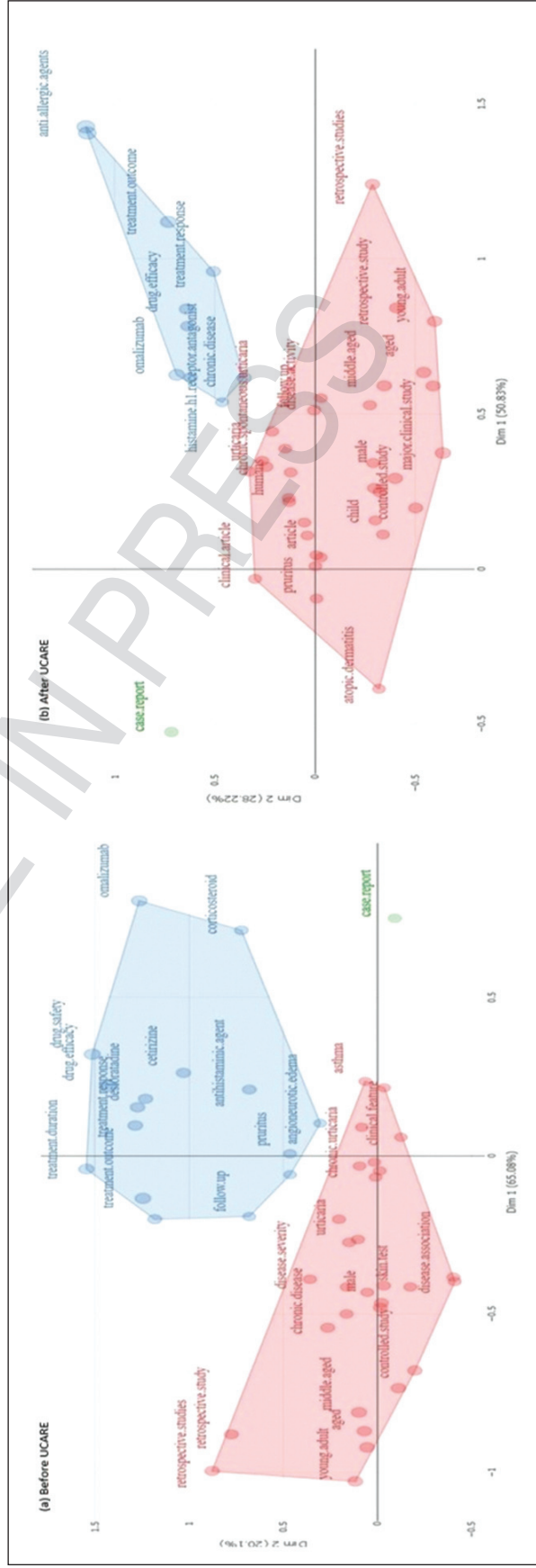
**FIGURE 4:** Country scientific production.



**FIGURE 5:** Country collaboration map.

**TABLE 5:** Most productive articles according to citations.

Rank	Paper (before UCARE)	Doi	Total citations	Paper (after UCARE)	Doi	Total citations
Top	Cox L12, 2011, J Allergy Clin Immunol	10.1016/j.jaci.2010.09.034	927	Zuberbier T11, 2018, Allergy Eur J Allergy Clin Immunol	10.1111/all.13397	1,029
2 <sup>nd</sup>	Zuberbier T, 2014, Allergy Eur J Allergy Clin Immunol	10.1111/all.12313	891	Zuberbier T, 2022, Allergy Eur J Allergy Clin Immunol	10.1111/all.15090	359
3 <sup>rd</sup>	Bernstein JA, 2014, J Allergy Clin Immunol	10.1016/j.jaci.2014.02.036	503	Dong X, 2020, Allergy Eur J Allergy Clin Immunol	10.1111/all.14289	255
4 <sup>th</sup>	Mlynek A, 2008, Allergy Eur J Allergy Clin Immunol	10.1111/j.1398-9995.2008.01726.x	323	Magerl M, 2016, Allergy Eur J Allergy Clin Immunol	10.1111/all.12884	230
5 <sup>th</sup>	Maurer M, 2011, J Allergy Clin Immunol	10.1016/j.jaci.2011.04.038	307	Kolkhir P, 2017, J Allergy Clin Immunol	10.1016/j.jaci.2016.08.050	221
6 <sup>th</sup>	Hoffmann HJ, 2015, Allergy Eur J Allergy Clin Immunol	10.1111/all.12698	300	Kaplan H, 2021, MABS	10.1080/19420862.2020.1860476	219
7 <sup>th</sup>	Staevska M, 2010, J Allergy Clin Immunol	10.1016/j.jaci.2009.11.047	276	Zhao Z-T, 2016, J Allergy Clin Immunol	10.1016/j.jaci.2015.12.1342	215
8 <sup>th</sup>	Zuberbier T, 2010, Clin Exp Dermatol	10.1111/j.1365-2230.2010.03840.x	269	Fricke J, 2020, Allergy Eur J Allergy Clin Immunol	10.1111/all.14037	199
9 <sup>th</sup>	Fujisawa D, 2014, J Allergy Clin Immunol	10.1016/j.jaci.2014.05.004	264	Maurer M, 2017, Allergy Eur J Allergy Clin Immunol	10.1111/all.13209	195
10 <sup>th</sup>	Confino-Cohen R, 2012, J Allergy Clin Immunol	10.1016/j.jaci.2012.01.043	264	Maurer M, 2019, N Engl J Med	10.1056/NEJMoa1900408	178



**FIGURE 6:** Factor analysis of author keywords of articles on chronic urticaria.

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## MOST CITED DOCUMENT

The most productive article is the most cited article. As a result, Table 5 shows the 10 most productive articles for chronic urticaria.

## FACTOR ANALYSIS FOR CHRONIC URTICARIA

Factor analysis is a statistical technique often used to reduce complexity and reveal hidden structures in multivariate data sets. It is a method used to understand the relationships between variables in a data set and to make the data set more understandable and manageable. This analysis is usually expressed in coefficients called factor loadings. These loadings indicate which factors the variables are associated with or which factors explain the commonality between certain variables. The factor analysis generated with keywords is given in Figure 6.

## DISCUSSION

In the medical field, a much larger and more usable space is created in medical practice by the establishment of particular institutional structures for tracking particular diseases, organizing treatment plans, producing academic knowledge about the disease, and making this information globally accessible. There is no denying that UCARE, as one of these major organizations, will have a big impact on the world. Furthermore, proving these effects with quantifiable data using scientific technique can help generate fresh concepts for additional advancements in this field. For identifying such quantifiable data, bibliometric analysis is a crucial data analysis technique.

Several significant trends and insights into the development of the subject are revealed by the bibliometric analysis of publications on chronic urticaria from 2 different time periods, 2016-2023 and 2008-2015. According to the data, the number of publications increased steadily during both decades, although the annual growth rates varied noticeably. Between 2016 and 2023, publications grew at an annual rate of 6.07%, but between 2008 and 2015, they increased at a greater pace of 8.02%. The average age of publications dropped dramatically from 12.1 years to 4.15 years, reflecting a more recent body of knowledge, even though the growth rate was slower in the more recent time. Additionally, the average number

of citations per article dropped from 32.24 to 13.5, suggesting a potential shift in citation patterns or the impact of more recent research yet to accumulate citations.

The number of authors contributing to chronic urticaria research increased significantly from 2,937 in the earlier period to 6,880 in the later period, indicating a broadening of the research community. Despite this growth, the number of single authors remained relatively stable, with 52 in the earlier period and 48 in the later period, suggesting that most research is conducted collaboratively. International co-authorship also saw a notable increase, rising from 12.81% to 20.32%, highlighting a trend towards greater global collaboration in chronic urticaria research. This increase in international collaboration could be attributed to initiatives like UCARE, which facilitate and promote cross-border research efforts. The decrease in the average age of publications and the increase in international collaborations indicate a more dynamic and interconnected research environment in chronic urticaria studies. This suggests that future research will benefit from international partnerships and the dissemination of recent findings.

Germany is clearly the nation with the most publications, and Maurer M. is recognized as the top author in both eras. The fact that the term “chronic urticaria” has been replaced with “chronic spontaneous urticaria” shows that the new definitions of urticaria are being used effectively. The continuation of Maurer’s influence in both eras has been greatly aided by the founding of UCARE by Maurer and associates.

The comparison of journals publishing articles on chronic urticaria shows a significant change between the 2 periods. While there were four dermatology journals among the top 10 journals in the 1<sup>st</sup> period, this number decreased to 2 in the following period. These differences may indicate that research on chronic urticaria has expanded to a wider perspective across different disciplines and specialties. This suggests an increasing interdisciplinary approach in chronic urticaria research.

In both periods, 2 dermatology journals (*J Am Acad Dermatol* and *Br J Dermatol*) are among the top



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10 most cited journals, and additionally, the Journal of the European Academy of Dermatology and Venereology, which was not among the top 10 in terms of publications in the previous period, is among the top 10 in terms of citations in the following period. This indicates that dermatology journals continue to play an important role in chronic urticaria research. Particularly, the influence of dermatology journals that were among the top 10 for chronic urticaria publications in the previous period continues in research are among the top ten most cited journals, indicating their continued significant role in chronic urticaria research. Especially, the influence of dermatology journals that were among the top 10 for chronic urticaria publications in the previous period continues in research.

It is clear that some organizations significantly advance the study of chronic urticaria. Along with other top contributors, “Charité-Universitätsmedizin Berlin” continuously distinguishes out with high publication numbers, underscoring its innovative role in the study of chronic urticaria. Similar to this, the publication counts of other universities like “Central South University” and “Mahidol University” (a member of UCARE) also demonstrate their noteworthy contributions to the subject. The number of publications from UCARE-member departments that placed in the top ten of the analysis has risen from 313 to 700 over the previous period (an growth rate of 123.64%). This significant increase in the number of publications from UCARE member departments indicates that UCARE has greatly contributed to the heightened focus on the topic of urticaria.

It is evident that Maurer M. is the most prolific author in the field of chronic urticaria, significantly surpassing other authors in both the number of publications and citations. Additionally, notable productivity and impact are observed among other authors, particularly Metz and Staubach. It can be observed that both Maurer and Metz were active in terms of publications in the pre-UCARE period and remained active in the post-UCARE period, whereas in terms of citations, only Maurer remained active in the post-UCARE period. A significant aspect post-UCARE is the prominence of different authors in both publications and citations. Another important finding is the

increase in the total number of publications by UCARE member academics from 215 to 420 (The increase rate is 95.35%) compared to the previous period. These outcomes could be associated with UCARE, especially with the encouragement of its member centers.

The United States is notable for being the nation with the most publications and the most cited nation prior to UCARE. Germany is the most cited nation in the post-UCARE era, despite China having the most publications. This suggests that Germany continues to play a significant and steady role in the study of chronic urticaria.

During the pre-UCARE period, Germany is seen collaborating with the United Kingdom, Spain, France, Poland, and Portugal. In the post-UCARE period, these collaborations have become more prominent with Türkiye, Spain, Switzerland, the United Kingdom, and Italy. Notably, Poland, Portugal, and France are no longer in the top collaborative countries in the post-UCARE period. The data clearly demonstrate that UCARE has effectively encouraged collaborative research efforts.

In the analysis of the most influential documents, in the post-UCARE period, the article titled “The EAACI/GA<sup>2</sup>LEN/EDF/WAO guideline for the definition, classification, diagnosis and management of urticaria” by Zuberbier et al. published in *Allergy*, has the highest citation count with 1,029 citations.<sup>11</sup> This result highlights the emphasis on urticaria management. In contrast, in the pre-UCARE period, the article titled “Allergen immunotherapy: a practice parameter third update” by Cox et al. published in the *Journal of Allergy and Clinical Immunology*, has the highest citation count with 927 citations, which underscores that immunotherapy does not have a role in chronic urticaria.<sup>12</sup>

Keyword analysis reveals that terms like asthma, skin test, urticaria, disease severity, and chronic urticaria were common and had high factor loads prior to the implementation of UCARE. However, conditions such as persistent spontaneous urticaria, pruritus, follow-up, and disease activity have large factor loads in the post-UCARE period. These findings suggest that there have been conceptual shifts and an empha-

sis on the disease's symptoms, activity evaluation, and follow-up during the post-UCARE era.

## CONCLUSION

Since the founding of UCARE, there seems to have been a conceptual shift in chronic urticaria. In keeping with UCARE's goals, the rise in cooperative international studies is a significant result. Türkiye and Italy have demonstrated a notable rise in participation in joint studies, particularly following UCARE, while Poland, Spain, and France have seen a decline in collaboration when compared to pre-UCARE. It can be concluded from these findings that there is a noticeable "UCARE effect" in all areas of chronic urticaria.

## Source of Finance

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## Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

## Authorship Contributions

*All authors contributed equally while this study preparing.*

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