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Global Research Landscape of Benign Prostatic Hyperplasia (2010 – 2026): A Bibliometric and Visualized Analysis Revealing Evolving Trends, Hotspots, and Future Frontiers

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Abstract

Purpose Benign prostatic hyperplasia (BPH) is a prevalent urological condition among aging males, yet the global research evolution, collaborative patterns, and paradigm shifts in this field remain incompletely characterized. This study aimed to map the global research landscape of BPH from 2010 to 2026, identifying key contributors, knowledge structures, and emerging frontiers.

Methods A bibliometric analysis was performed using data from the Web of Science Core Collection (WoSCC). A total of 5,463 records published between 2010 and 2026 were retrieved. Bibliometric indicators, co-authorship networks, and keyword co-occurrence analyses were conducted using VOSviewer and CiteSpace. Descriptive statistics were utilized to analyze publication trends, national contributions, and journal impact.

Results Our analysis revealed a steady growth in BPH-related publications, with annual output peaking at 468 in 2025. China dominated the global output with 2,978 publications, accounting for the majority of the literature. In contrast, the United States played a pivotal role in international collaboration networks. The Zhongnan Hospital of Wuhan University, Sichuan University, and Capital Medical University emerged as the most prolific institutions. Among individual researchers, Kaplan Steven A was the most productive author. The Journal of Urology published the highest volume of influential articles. Bibliometric mapping indicated a significant paradigm shift in research hotspots, moving from traditional surgical interventions (e.g., transurethral resection) towards exploring inflammation-driven immune pathogenesis and minimally invasive therapies.

Conclusion This study provides a comprehensive visualization of the BPH research trajectory over the past 16 years. It highlights the evolving trends from operative management towards mechanism-based and individualized care, offering strategic insights for future research prioritization and clinical practice in urology.

Keywords: Benign prostatic hyperplasia; Bibliometric analysis; Research trends; Global landscape; Inflammation; Lower urinary tract symptoms

1. Introduction

Benign prostatic hyperplasia (BPH) is a prevalent benign urological condition in aging men, characterized by abnormal prostate cell proliferation leading to bladder outlet obstruction and lower urinary tract symptoms (LUTS), significantly impairing quality of life [1]. Its prevalence rises with age [2], with the global patient count reaching 94 million in 2019, a 70.5% increase from 2000, notably in low- and middle-income regions [3]. While BPH is causally linked to prostatitis and prostate cancer, its underlying mechanisms require further elucidation [4]. Bibliometrics quantitatively analyzes literature output, journals, and citations to trace disciplinary evolution and identify research hotspots, and has been applied in BPH studies [5-8]. However, existing analyses often suffer from short time spans and narrow focus, predominantly on surgical procedures like TURP and laser enucleation [7]. Consequently, non-surgical aspects including epidemiology, medical therapy, inflammatory pathways, imaging stratification, and healthcare disparities remain bibliometrically underexplored. No comprehensive 2010 – 2026 BPH visualization exists, despite post-2010 advances elucidating chronic inflammation and metabolic mechanisms, such as TNF- α promoting proliferation via SOX4/TGF- β /Smad γ [9], and macrophage inhibitory factor-1 (MIC-1) gene downregulation correlates with prostatitis severity [10]. Metabolic syndrome is linked to increased prostate volume and worsened LUTS [11]. In pharmacotherapy, steroid 5 α -reductase 2 (SRD5A2) remains the core target for 5 α -reductase inhibitors, yet current therapies have limitations [12]. Alpha-blockers are validated as first-line treatments [13], but new drug development has stagnated over the past two decades, with most agents only alleviating symptoms [14]. Surgically, traditional transurethral resection of the prostate (TURP) is increasingly supplanted by minimally invasive techniques like holmium laser enucleation of the prostate (HoLEP), reducing adverse events [15-18]. The American Urological Association (AUA) continuously updates its guidelines [19]. Artificial intelligence enhances diagnostic efficiency in imaging and pathology but faces unresolved challenges [20]. Notably, BPH burden grows faster in regions with lower sociodemographic indices, highlighting global research and resource imbalances [21]. These developments indicate a paradigm shift. While surgical management is increasingly standardized, researchers are moving beyond “which procedure is best” to understanding “why prostates cause LUTS,” prioritizing inflammation, metabolic reprogramming, and risk-stratified care. This necessitates a whole-field bibliometric map, not one limited to surgery. Addressing these gaps, this study utilized the Web of Science Core Collection to select English BPH literature from 2010 to 2026. Employing bibliometric theory with CiteSpace and VOSviewer, we analyzed annual publications, country/institutional collaborations, core authors/journals, keyword clusters, co-citations, and burst terms [22, 23].

Spanning the full 16 years, this study overcomes prior short-term limitations through multidimensional visualization, tracking hotspot evolution towards frontiers like gut microbiota-mediated gut-prostate axis abnormalities [24] and roles of inflammation-related proteins and plasma metabolites [25]. Complementing recent surgery-focused bibliometric analyses [7], and prior reviews [26-30], this work provides a panoramic view of global BPH research, interpreting observed hotspot migrations as evidence of an ongoing paradigm shift—from a volume- and procedure-

centered model to a mechanism-informed, personalized approach emphasizing inflammation, immune-metabolic pathways, and phenotype-based stratification. This offers references for future academic exploration and clinical protocol optimization, advancing BPH research towards precision, efficiency, and collaboration.

2 Methods

Data were retrieved from the Web of Science Core Collection (SCI-Expanded). The search strategy combined MeSH terms and free-text keywords: TS= (("benign prostatic hyperplasia" OR "BPH" OR "prostatic hyperplasia") AND ("epidemiology" OR "pathophysiology" OR "diagnosis" OR "treatment" OR "surgery" OR "pharmacology" OR "management" OR "risk factor")). The publication period was from January 1, 2010, to March 31, 2026. Following PRISMA guidelines, duplicates were removed, titles and abstracts screened to exclude editorials, letters, and non-human studies, and full texts evaluated against inclusion criteria (original articles, reviews, systematic reviews addressing BPH, in English, with sufficient bibliometric metadata). Records without full text or incomplete citation data were excluded, yielding 5,463 eligible publications. The research flow chart is shown in Figure 1.

Bibliometric and visual analyses were performed using CiteSpace and VOSviewer. CiteSpace constructed co-citation networks of countries, authors, institutions, and references, and identified research hotspots and frontiers. VOSviewer generated keyword co-occurrence networks and density maps. Parameters: time span 2010 – 2026, yearly slices; node types included countries, institutions, authors, references, and keywords; the Path Finder algorithm pruned networks; cluster quality was assessed by modularity Q (>0.3) and silhouette S (>0.5). These methods systematically examined collaboration networks, knowledge foundations, and thematic evolution of global BPH research.

3. Results

3.1 Temporal Trends and National Contributions

A total of 5,463 benign prostatic hyperplasia (BPH) publications were included. Annual output showed a sustained upward trend across three phases: stable accumulation (2010 – 2014, 197 – 290 articles), minor fluctuation (2015 – 2019, 290 – 335 articles), and rapid expansion since 2020, peaking at 468 in 2025 (Figure 2A; Supplementary Table 1). Conversely, average citations declined continuously, remaining stable at 0.49 – 0.68 during 2010 – 2016 but dropping sharply post-2020 to 0.02 in 2024 and nearly zero in 2025, indicating diluted per-article attention amid publication surges. The top 20 countries/regions contributed 10,291 papers (Supplementary Table 2). China ranked first with 2,978 articles (28.94%), followed by the United States (1,541, 14.97%), South Korea (1,098, 10.67%), Italy (921, 8.95%), and Japan (485, 4.71%) (Figures 2B – C). These five nations accounted for 68.27% of output, demonstrating concentrated research activity. The global spatial distribution map further confirms this pattern, with China and the United States exhibiting the highest publication density through darker color gradients (Figure 2D).

3.2 Collaborative Networks, Core Authors, Productive Institutions, and Knowledge Dissemination Pathways

At the national level, the United States leads in international cooperation frequency, followed by Italy, Canada, France, and Germany. China, despite ranking first in total publications, ranks sixth

in cooperation frequency (Figure 3A). Key cross-border links include US – Canada (82 times), US – China (40), US – Italy (39), US – Germany (23), and Italy – Spain (21) (Supplementary Table 3). Geographic visualization (Figure 3B) confirms that the US, China, and several Western European countries serve as core hubs, underscoring North America and Europe's dominance in driving the global BPH research agenda. Among high-yield authors (Figure 3C), Kaplan Steven A leads with 271 articles, far ahead of Chughtai Bilal (90). Time-dimension evolution (Figure 3D) shows that newer scholars such as Zorn Kevin C, Elterman Dean, and Chughtai Bilal have experienced a surge in output since 2019, peaking around 2025, while Kaplan's output remained stable throughout.

At the institutional level, Chinese institutions dominate the top ten: Wuhan University Central South Hospital (91 articles), Sichuan University (88), and Capital Medical University (82) occupy the top three, with five additional Chinese institutions in the top ten (Figure 3E). Development trends (Figure 3F) reveal explosive late-stage growth for these top Chinese institutions, peaking around 2025, while established European universities like the University of Florence show steady growth, indicating a diversified growth pattern. The Sankey diagram (Figure 3G) maps knowledge flow from authors (AU) to institutions (AU-UN) to journals (SO). Bhojani Naeem has the strongest starting line, with output primarily flowing to the University of Toronto and its health network, making this group the core transit hub. Chughtai Bilal's output also significantly feeds this hub. Meanwhile, Elterman Dean and Zorn Kevin C mainly flow to McGill University, forming a secondary tributary. On the journal side, Urology absorbs the largest share, followed by World Journal of Urology, while European Urology and BJU International receive narrower streams. This pattern delineates a knowledge production and dissemination ecology centered on North American core institutions and specific high-impact journals.

3.3 Journal Distribution and Knowledge Dissemination Channels

BPH research is predominantly published in urology journals. The top five core journals by publication volume are Journal of Urology (375 articles), Urology (179), World Journal of Urology (164), BJU International (124), and International Journal of Urology (103) (Figure 4A). Spatiotemporally, Journal of Urology has dominated with the fastest growth, rising from 14 articles in 2010 to 38 in 2023, while Urology, World Journal of Urology, and BJU International also grew significantly, collectively forming a multi-level dissemination network for BPH research (Figure 4B).

3.4 Knowledge Base and High-Impact Literature

Figure 5 analyzes the knowledge base and evolutionary trajectory of BPH research via co-citation networks, temporal maps, degree distributions, and highly cited author rankings. The co-citation network (Figure 5A) contains 50 nodes and 122 edges (density=0.098), exhibiting a “core-periphery” structure divided into three clusters: red (early classics), green (core hub), and blue (recent expansions). The green cluster centers on “McConnell JD 2003,” the most highly cited classic, laying the theoretical foundation for minimally invasive treatment and clinical decision-making. The red cluster includes foundational works such as “Barry MJ 1992,” “McVary KT 2011,” and “Oelke M 2018,” establishing basic consensus and epidemiological background. The blue cluster comprises recent high-yield literature like “Chughtai B 2016” and “De Nunzio C 2011,” reflecting expansion into imaging, novel surgical techniques, and long-term follow-up. This distribution reveals an evolution from early pathophysiology, through the minimally invasive

revolution centered on McConnell 2003, toward precision technology.

The temporal map (Figure 5B) confirms this gradient: early core literature forms the theoretical foundation, mid-term key literature drives precision diagnosis and treatment, and recent high-impact literature focuses on minimally invasive innovation and long-term outcomes. The degree distribution (Figure 5C) follows a power law: the top 10% of nodes contribute ~40% of connectivity, verifying the dominance of a few highly cited core works. In the highly cited literature ranking (Figure 5D), “Avins AL (2011)” leads with 325 citations, followed by “Egan KB (2016)” (162) and “De Nunzio C (2011)” (137), overlapping substantially with the core literature group and collectively forming the knowledge foundation of BPH research (Supplementary Table 4).

3.5 Thematic Evolution and Hotspot Distribution

Figure 6 deconstructs the BPH research knowledge structure from six dimensions. Time-series analysis (Figure 6A) shows “benign prostatic hyperplasia” consistently dominates (annual publications climbing to 1,551), while “lower urinary tract symptoms” exhibits strong synergistic growth, indicating symptom management as a core issue. Since 2018, keywords such as “prostatic hyperplasia,” “prostate cancer,” and “inflammation” have significantly increased, reflecting a shift toward deeper mechanisms like histopathological remodeling and tumor microenvironment comparison. The high-frequency word cloud (Figure 6B) differentiates into three sub-clusters: treatment methods (e.g., “laser therapy”), pathological mechanisms (e.g., “inflammation”), and comprehensive efficacy indicators (e.g., “quality of life”). The time-zone evolution (Figure 6C) confirms this shift from early classical drugs and surgical interventions toward inflammation-driven immunopathology. Quantitative statistics (Figure 6D) rank “benign prostatic hyperplasia” (1,551 occurrences), “lower urinary tract symptoms” (488), “BPH” (324), and “prostatic hyperplasia” (265) as the high-frequency core layer. The co-word network (Figure 6E) reveals four modules: green (drug intervention and functional outcomes), blue (basic biological mechanisms), purple/red (surgical intervention and related diseases). The tree diagram (Figure 6F) displays the hierarchical distribution of top 50 high-frequency words, with the top three establishing the field’s cornerstone and remaining vocabulary reflecting balanced development across clinical treatment, pathological mechanisms, and patient quality of life.

4. Discussion

BPH research has remained a central focus in urology. As illustrated in Figure 2, annual BPH-related publications rose steadily from 2010 to 2026, with accelerated growth after 2020. However, declining average citation counts suggest that individual paper impact may be diluted amid the publication surge. China leads global output with nearly 30% of total publications, followed by the United States, South Korea, Italy, and Japan. Notably, the United States maintains significantly higher international collaboration frequency than China, forming dense cooperative networks with Canada and Italy. This disparity reflects differing disease burdens: Liu et al[31] demonstrated that BPH causes more disability-adjusted life years in China than any other urinary system disease, despite rising absolute burdens in both nations. While China dominates publication volume, developed Western countries retain centrality in global research collaboration, underscoring the need to strengthen ties between developing and developed nations. With accelerating global aging, enhancing international scientific cooperation and resource sharing is critical to addressing escalating BPH public health challenges[32]. Crucially, these collaboration gaps extend beyond

surgical technique dissemination to encompass epidemiology, medical therapy, and mechanistic research—domains underrepresented in prior bibliometric studies focused predominantly on operative management[7].

At institutional and author levels, a stable core team has emerged. Chinese institutions dominate high-output rankings, with Wuhan University Central South Hospital, Sichuan University, and Capital Medical University occupying top degree-centrality positions and exhibiting exceptional recent growth(Figure 3). Meanwhile, traditional European powerhouses like the University of Florence sustain steady output. Kaplan Steven A remains the most prolific author, with seminal contributions spanning drug-coated balloon angioplasty reviews[33], contemporary cost-benefit analyses of BPH/LUTS pharmacotherapy[34], stratified significance of mid-lobe protrusion on steam hyperthermia retreatment risk[35], and leadership in randomized sham-controlled validation of the ProVee prostatic urethral stent[36]. Zorn KC co-authored pivotal reports on Aquablation safety for concurrent BPH and bladder stones[37], and expert reviews of modern BPH management[38]. Elterman D’ s team evaluated real-world functional outcomes of the Optilume BPH catheter system[39], contributed predictive studies on membranous urethral length and post-HoLEP urinary incontinence risk[40], and reported two-year real-world Rezūm therapy outcomes in patients aged ≥ 80 years[41].

BPH research is concentrated in urology journals, with Journal of Urology dominating publication volume and growth, alongside rising contributions from Urology, World Journal of Urology, and BJU International, collectively forming a multi-tiered knowledge dissemination network(Figure 4). Co-citation analysis (Figure 5) reveals a classic core-periphery structure anchored by McConnell JD 2003, which established the theoretical foundation for minimally invasive BPH treatment. Early seminal literature forms the foundational consensus, while recent studies represent expansion toward novel technologies and methodologies. This pattern confirms a durable backbone of guideline and diagnostic consensus, upon which emerging clusters in inflammation, immunology, and phenotype-based stratification are now attaching—clusters that would be missed by search strategies limited to surgical keywords alone. Highly cited literature further corroborates this stability: the top ten articles each received >88 citations (maximum 325), far exceeding field averages (Supplementary Table 4). These foundational works cluster into three pillars: first, authoritative guidelines led by updated AUA recommendations [30], supplemented by 2021 follow-up[42] and 2018 surgical guidelines [43]; second, epidemiological and pathogenic studies including burden analyses [44][47], BPH-prostate cancer controversies [45], and chronic inflammatory pathways[46], third, precision diagnostics covering MRI differentiation[48], drug therapy meta-analyses[49], and sex hormone mechanism reviews[42]. Together, they map BPH’ s transformation from basic theory to precise clinical practice.

Keyword analysis (Figure 6) depicts evolving hotspots. Beyond enduring dominance of “benign prostatic hyperplasia” and “LUTS,” rising activity in “prostate cancer” and “inflammation” signals a paradigm shift from symptom management toward deeper mechanistic exploration, particularly inflammation’ s role in prostate disease. This hotspot migration is a central finding of our whole-field analysis, capturing dimensions that procedure-focused bibliometric studies cannot detect by design. While prior work thoroughly documented surgical evolution from TURP to laser enucleation and office-based therapies (Aquablation, Rezūm, UroLift), our data indicate the literature is now moving beyond procedural selection toward frontiers driven by inflammation, immune pathways, and patient phenotyping[7]. Exemplars include Meng et al.’ s

machine learning model for histological prostatitis risk prediction[50]; Biesadecki et al.' s identification of systemic oxidative and nitrative stress alterations[51]; and Stanczak et al.' s linkage of *Toxoplasma gondii* infection to BPH pathogenesis[52]. Diagnostic advances include Davis et al.' s multi-frequency magnetic resonance elastography for viscoelastic differentiation of BPH from prostate cancer[53] ;Salehi et al.' s serum/saliva microRNA biomarkers for non-invasive discrimination[54]; and Amin et al.' s Tanzanian prevalence and clinical characterization study[55]. Therapeutically, systematic reviews confirm Aquablation' s superiority over TURP in preserving ejaculatory function and short-term efficacy[56]. prostate artery embolization (PAE) effectively alleviates LUTS with fewer complications[57, 58]. and network meta-analyses demonstrate comparable International Prostate Symptom Score improvements among PAE, Aquablation, and TURP[59].

In summary, this bibliometric analysis outlines a comprehensive global landscape of BPH research (2010 – 2026), highlighting the paradigm shift from traditional symptom management toward exploring inflammation and prostate cancer comorbidity mechanisms, while revealing persistent international collaboration gaps. Unlike prior surgically focused studies, our work captures the full BPH ecosystem, including epidemiological, mechanistic, pharmacological, and diagnostic dimensions[7], identifying a second inflection point: the transition toward mechanism-informed, phenotype-guided care. Despite limitations inherent to Web of Science exclusivity and potential algorithmic biases, this study provides systematic insights into emerging frontiers such as minimally invasive therapies and machine learning – based risk stratification, offering valuable references for future research.

5. Conclusion

This study systematically analyzed the global BPH research landscape from 2010 to 2026 using CiteSpace and VOSviewer. Global attention to BPH continues to rise, with steady growth in annual publications. While China leads in total output, the United States dominates international collaboration networks. Research hotspots have shifted from traditional surgical approaches toward inflammation-driven immunopathological mechanisms. However, a tightly knit global cooperative network has yet to emerge. To advance the field, developing countries should strengthen both domestic investment and cross-border scientific partnerships.

Data Availability Statement

The original contributions presented in the study are included in the article/Supplementary Material, further inquiries can be directed to the corresponding author/s.

Authors' contributions

Q.H.X., Q.Z.R., D.P.F. and X.R.F. conceived the study. Q.H.X. and X.Y. performed the data retrieval and analysis. Q.H.X. wrote the original draft. Q.Z.R. and X.Y. reviewed and edited the manuscript. D.P.F. and X.R.F. supervised the project and acquired funding. All authors have read and approved the final version of the manuscript.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Declarations

Conflict of interest The authors declare no competing interests.

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Research involving human participants and/or animals No human subjects or animals were involved in this study.

Consent to participate No informed consent is required.

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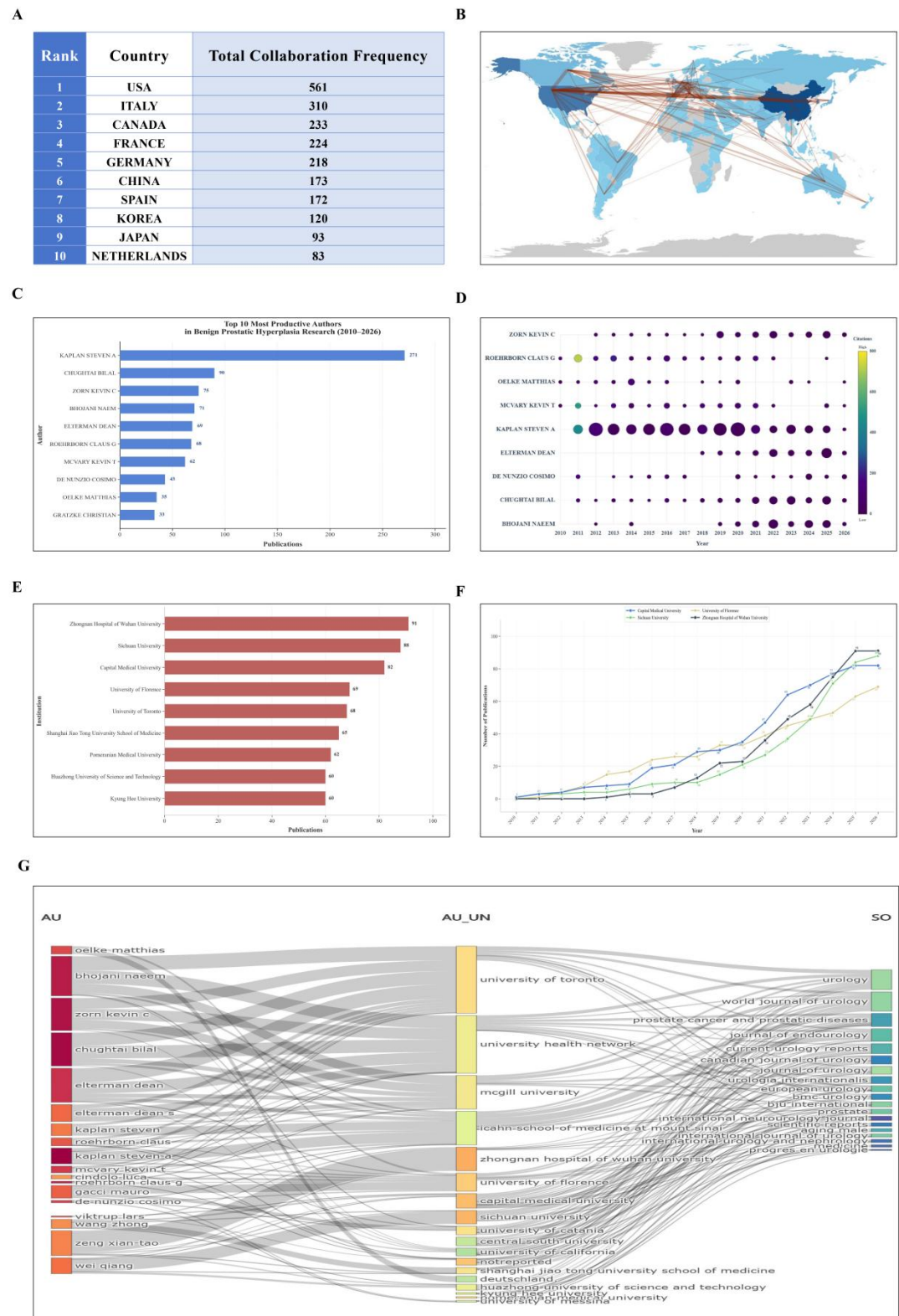
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Figures

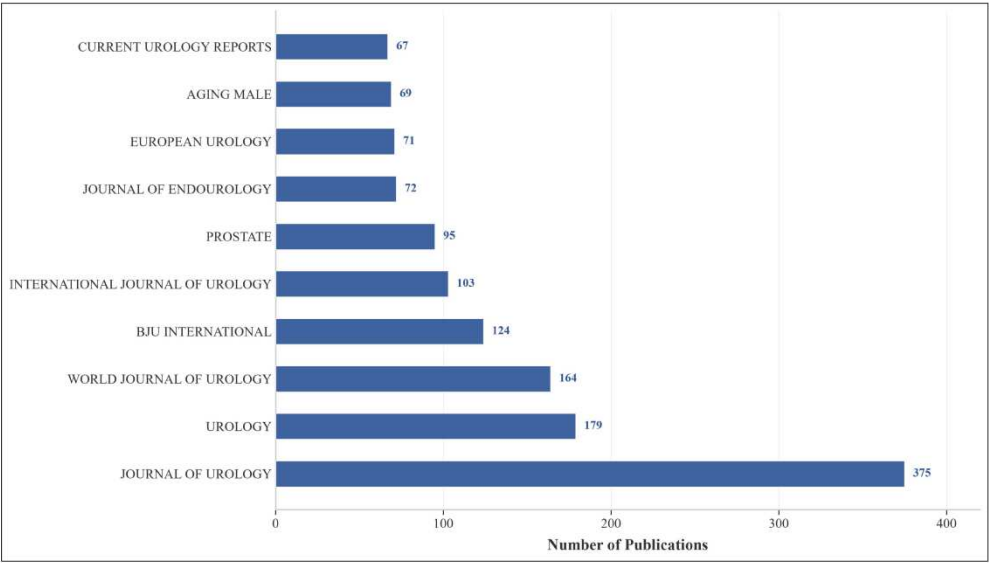
489 (C) Pie chart showing the contribution proportions of the top 20 countries/regions.
490 (D) Spatial distribution of BPH research across countries/regions globally.
491



492
493 **Figure 3. Analysis of Global Collaboration Network, Core Authors, and High-Productivity**
494 **Institutions in BPH Research**

- (A) Ranking of countries by collaboration frequency
- (B) World map of BPH research collaboration network
- (C) Ranking of high-productivity authors by publication count
- (D) Temporal heatmap of core authors' annual output
- (E) Ranking of high-productivity institutions by publication count
- (F) Annual publication trends of major institutions
- (G) Sankey diagram of author-institution-journal flows

A



B

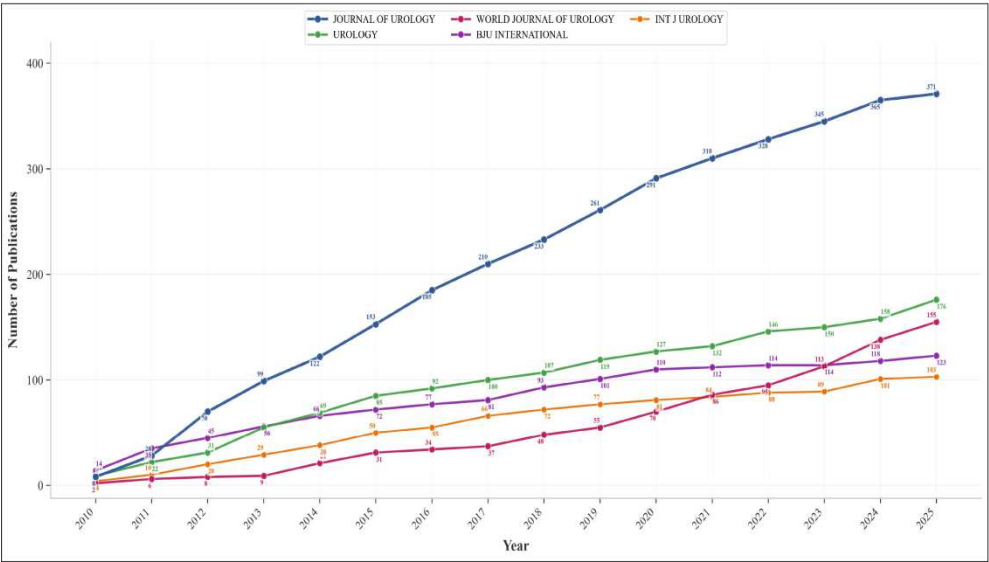


Figure 4 Journal Distribution and Knowledge Dissemination Channels of BPH Research

- (A) Bar chart of the top 10 high - productivity journals in BPH research
- (B) Line graph of the annual publication trends of major journals

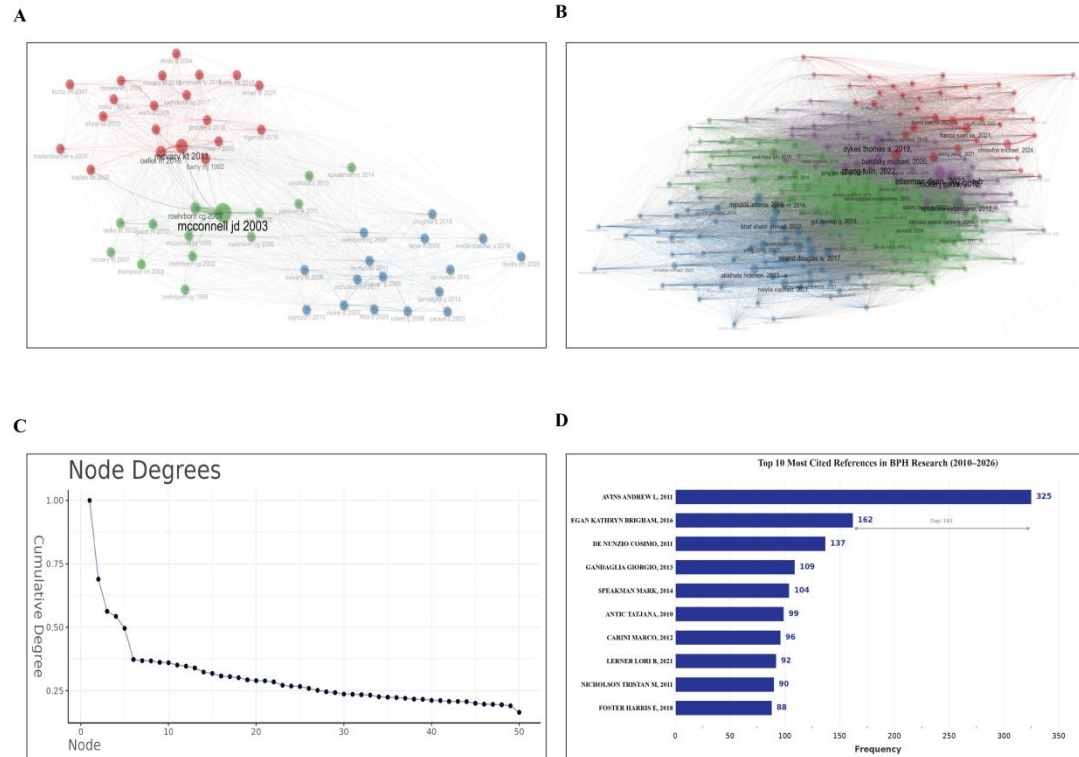


Figure 5. Knowledge base and evolution characteristics of BPH research

(A) Co-citation network map

(B) Temporal evolution map

(C) Node degree distribution plot

(D) Ranking of highly productive authors



Figure 6. Multidimensional Visualization Analysis of Research Hotspots and Knowledge Structure in Benign Prostatic Hyperplasia (BPH)

- (A) Annual publication trend of high-frequency keywords related to BPH from 2010 to 2026.
- (B) Word cloud of the top 50 high-frequency keywords in the BPH research field.
- (C) Thematic timeline visualization of BPH research (2010-2019 vs. 2020-2026).
- (D) Bar chart of the total annual frequency of the top 10 high-frequency keywords in the BPH field.
- (E) Co-occurrence network of keywords in BPH research.
- (F) Treemap showing the hierarchical distribution of high-frequency keywords in BPH research.

Supplementary materials

Supplementary Table 1. Annual Publications and Average Citations on Benign Prostatic Hyperplasia (BPH) from 2010 to 2026

Year	Publications	AvgCitations
2010	197	0.5
2011	286	0.68
2012	291	0.49
2013	320	0.5
2014	290	0.67
2015	345	0.56
2016	308	0.63
2017	311	0.57
2018	317	0.57
2019	335	0.53
2020	365	0.39
2021	359	0.36
2022	320	0.35
2023	342	0.18
2024	445	0.02
2025	468	0
2026	164	0

Supplementary Table 2. Top 20 Countries/Regions by Publication Volume in BPH Research (2010–2026)

Rank	Countries/Regions	Publication Volume
1	CHINA	2978
2	USA	1541
3	SOUTH KOREA	1098
4	ITALY	921
5	JAPAN	485
6	FRANCE	436
7	CANADA	415
8	INDIA	274
9	TURKEY	274
10	SPAIN	261
11	EGYPT	245
12	IRAN	235
13	GERMANY	209
14	BRAZIL	187
15	POLAND	177
16	RUSSIA	147
17	AUSTRALIA	123
18	NIGERIA	110
19	SAUDI ARABIA	104
20	GREECE	71

Supplementary Table 3. Top 20 Most Frequent International Collaborative Pairs in BPH

Research (2010–2026)

Rank	Country1	Country2	Frequency
1	CANADA	USA	82
2	CHINA	USA	40
3	ITALY	USA	39
4	GERMANY	USA	23
5	ITALY	SPAIN	21
6	AUSTRALIA	USA	19
7	FRANCE	USA	17
8	KOREA	USA	17
9	SPAIN	USA	17
10	GERMANY	ITALY	16
11	EGYPT	SAUDI ARABIA	15
12	FRANCE	ITALY	14
13	JAPAN	USA	13
14	FRANCE	SPAIN	13
15	INDIA	USA	12
16	CANADA	FRANCE	12
17	NETHERLANDS	USA	10
18	CHINA	ITALY	10
19	GERMANY	SWITZERLAND	10
20	ITALY	SWITZERLAND	9

Supplementary Table 4. The detailed list of top 10 highly cited references

Number	Document Title	Publication Date	Journal	Impact Factor	Citation Count
1	Update on AUA guideline on the management of benign prostatic hyperplasia.	2011/3/23	JOURNAL OF UROLOGY	6.8	325
2	The Epidemiology of Benign Prostatic Hyperplasia Associated with Lower Urinary Tract Symptoms: Prevalence and Incident Rates.	2016/8/1	UROLOGIC CLINICS OF NORTH AMERICA	2.9	162
3	The controversial relationship between benign prostatic hyperplasia and prostate cancer: the role of inflammation.	2011/4/19	EUROPEAN UROLOGY	25.2	137
4	The role of chronic prostatic inflammation in the pathogenesis and progression of benign prostatic hyperplasia (BPH).	2013/5/9	BJU INTERNATIONAL	4.4	109
5	Burden of male lower urinary tract symptoms (LUTS) suggestive of benign prostatic hyperplasia (BPH) - focus on the UK.	2014/3/25	BJU INTERNATIONAL	4.4	104
6	Prostate cancer: differentiation of central gland cancer from benign prostatic hyperplasia by using diffusion-weighted and dynamic contrast-enhanced MR imaging.	2010/9/17	RADIOLOGY	15.2	99
7	A systematic review and meta-analysis on the use of phosphodiesterase 5 inhibitors alone or in combination with α -blockers for lower urinary tract symptoms due to benign prostatic hyperplasia.	2012/3/13	EUROPEAN UROLOGY	25.2	96
8	Management of Lower Urinary Tract Symptoms Attributed to Benign Prostatic Hyperplasia: AUA GUIDELINE PART I, Initial Work-up and Medical Management.	2021/8/13	JOURNAL OF UROLOGY	6.8	92
9	Androgens and estrogens in benign prostatic hyperplasia: past, present and future.	2011/5/31	DIFFERENTIATION	2.6	90

Number	Document Title	Publication Date	Journal	Impact Factor	Citation Count
10	Surgical Management of Lower Urinary Tract Symptoms Attributed to Benign Prostatic Hyperplasia: AUA Guideline.	2018/5/19	JOURNAL OF UROLOGY	6.8	88

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