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Bibliometric analysis of dental research in Peruvian universities, 2013–2023

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ABSTRACT

Scientific production in dentistry has grown in Peru over the past decade; however, institutional differences in publication impact, thematic areas, and collaboration patterns remain unclear. ***Aim:*** *To compare the Scopus-indexed dental scientific output of five Peruvian universities between 2013 and 2023.* ***Materials and Method:*** *A cross-sectional bibliometric study was conducted using Scopus to identify dental publications affiliated with the five most productive Peruvian universities from 2013 to 2023. Eligibility criteria included dental-related topics and full variable availability. After screening 825 records, 584 were included. Extracted variables included publication year, type, thematic area, citations, scientific productivity, number of authors, and collaboration patterns. Descriptive indicators were computed; normality was assessed using Shapiro–Wilk. Group differences were tested with Chi-square and Kruskal–Wallis tests, with Bonferroni-adjusted post hoc analyses. Statistical significance was set at $p<0.05$.* ***Results:*** *The greatest increase in scientific output occurred between 2019 and 2023, peaking in 2021. Universidad Científica del Sur produced the highest number of publications (34.25%), while Universidad Peruana Cayetano Heredia obtained the highest citation impact. Public Oral Health was the most frequently represented area. Significant differences were found in thematic specialization ($p=0.016$), citation averages ($p<0.001$), number of authors ($p=0.007$), and collaboration types ($p<0.001$). National collaborations predominated, while international partnerships remained limited.* ***Conclusions:*** *Peruvian dental research indexed in Scopus has increased substantially in recent years. Citation impact and thematic specialization differ among universities, reflecting heterogeneous research development. The predominance of national collaboration highlights the need to reinforce international cooperative networks. These findings support the formulation of differentiated strategies to strengthen institutional research capacity and global visibility.*

Keywords: *bibliometrics - dental research - universities*

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Análisis bibliométrico de la investigación en odontología en universidades peruanas, 2013-2023

RESUMEN

La producción científica en odontología ha aumentado en Perú durante la última década; sin embargo, persisten diferencias institucionales en impacto, áreas temáticas y patrones de colaboración. ***Objetivo:*** *Comparar la producción científica odontológica indexada en Scopus de cinco universidades peruanas durante 2013–2023.* ***Materiales y Método:*** *Se realizó un estudio bibliométrico transversal usando Scopus para identificar publicaciones odontológicas afiliadas a las cinco universidades peruanas más productivas entre 2013 y 2023. Tras identificar 825 registros, se incluyeron 584 que cumplieron los criterios de elegibilidad. Se extrajeron datos sobre año de publicación, tipo, área temática, citas, productividad científica, número de autores y colaboración. Se aplicaron estadísticas descriptivas; la normalidad se evaluó con Shapiro–Wilk. Para comparar grupos se usaron Chi-cuadrado y Kruskal–Wallis, aplicando post hoc con corrección de Bonferroni. Se consideró significancia $p<0.05$.* ***Resultados:*** *El mayor incremento de producción científica se observó entre 2019 y 2023, con un pico en 2021. La Universidad Científica del Sur generó la mayor cantidad de publicaciones (34.25%), mientras que la Universidad Peruana Cayetano Heredia obtuvo el mayor impacto de citas. La Salud Pública Oral fue el área predominante. Hubo diferencias significativas en especialización temática ($p=0.016$), citas promedio ($p<0.001$), número de autores ($p=0.007$) y tipos de colaboración ($p<0.001$). Predominó la colaboración nacional, mientras que la internacional fue limitada.* ***Conclusiones:*** *La producción científica odontológica peruana indexada en Scopus ha aumentado notablemente. El impacto de citas y la especialización temática difieren entre universidades, reflejando un desarrollo heterogéneo. El predominio de la colaboración nacional evidencia la necesidad de fortalecer redes internacionales. Estos hallazgos respaldan estrategias diferenciadas para consolidar la capacidad investigativa y la visibilidad global.*

Palabras clave: *bibliometría - investigación dental - universidades*

INTRODUCTION

Scientific production is a continuous process aimed at disseminating knowledge through formal academic publication channels. Bibliometrics provides a quantitative approach that enables the evaluation of scientific development, the identification of research areas, and the detection of emerging trends, offering essential information for guiding research policies[1,2]. In dentistry, bibliometric studies have revealed patterns of international collaboration and a concentration of research in preventive oral health, alongside marked disparities between high-income and developing regions[3]. Globally, Scopus and Web of Science are among the main databases used to assess scientific output, providing broad journal coverage and standardized metrics such as the Scimago Journal Rank[1]. Although most dental research worldwide originates in high-income countries, Peru has made increasing efforts to strengthen research within dental schools[4]. Recent evidence shows a rise in Peruvian scientific production indexed in Scopus across the health sciences, with a notable growth in dental publications between 2017 and 2023[5]. This trend has been reinforced by the recent inclusion of Peruvian dental journals in international indexes, contributing to a mean annual national scientific growth of 33% in recent years[6]. Despite this progress, the overall level of scientific output in the health sciences remains low compared with other countries[7]. Currently, only four Peruvian dental journals are indexed in major international databases, reflecting limited but growing national visibility and emphasizing the need to strengthen research capacity[4]. Parallel to this, national initiatives such as those led by the National Council for Science, Technology and Technological Innovation (CONCYTEC) have contributed to gradually improving research quality and productivity, although previous bibliometric studies highlight persistent gaps in international collaboration and underdeveloped emerging research areas[8,9]. Given this scenario, it is essential to understand how Peruvian universities have contributed to the scientific development of dentistry over time. Therefore, the present study aims to compare the dental scientific output indexed in Scopus from Peruvian universities during 2013–2023, under the hypothesis that significant differences exist among universities in terms of publication volume, thematic areas, citation impact, and collaboration patterns.

MATERIALS AND METHOD

This cross-sectional study analyzed the scientific production in dentistry from Peruvian universities indexed in Scopus between 2013 and 2023. The initial population consisted of 825 records identified using an advanced search in the Scopus database (Scopus, Elsevier, Amsterdam, Netherlands). The inclusion criteria were a) publications indexed in Scopus between 2013–2023; b) exclusively dental-related topics; and c) primary affiliation to one of the five Peruvian universities with the highest scientific output. Records with incomplete information for any study variables were excluded.

Because the aim was to characterize the full population of publications produced by these universities, no sample size calculation was required. All eligible records were considered, resulting in a final dataset of 584 records, obtained through convenience sampling after applying the eligibility criteria.

Data extraction and classification were performed by a single researcher trained in bibliometric analysis, following a standardized protocol with explicit operational definitions. The variables analyzed were university affiliation, year of publication, type of publication, thematic area, number of citations, scientific productivity, number of authors per publication, collaboration status, and collaboration regions.

The "type of publication" variable included the categories: Letter to the Editor/Editorial, Literature Review, Case Report, Original Article, and Systematic Review, as indicated by Scopus. The "thematic area" variable included: Dental Public Health, Endodontics, Oral and Maxillofacial Pathology, Oral and Maxillofacial Surgery, Orthodontics and Dentofacial, Orthopedics, Pediatric Dentistry, Periodontics, Prosthodontics and Restorative Dentistry, Oral Implantology, and Oral and Maxillofacial Radiology, assigned after manual review of the publications.

Scientific productivity was defined as the mean number of citations per publication. Collaboration status was classified as Simple, Multiple, or No collaboration. Collaboration regions included Peru, South America, Central America, North America, Asia, Africa, Oceania, and Europe, with additional categories added when more than one region was involved.

The search procedure consisted of accessing the Scopus website, selecting "Advanced document search," and entering the following query: AFFILCOUNTRY (peru) AND PUBYEAR > 2012 AND PUBYEAR < 2024 AND (LIMIT-TO (SUBJAREA, "DENT")).

The results were then filtered by "Affiliation" to include only the top five Peruvian universities according to publication volume. Each record was manually reviewed to confirm that it met the eligibility criteria.

Statistical analyses were performed using Stata Now 19 SE (StataCorp LLC, College Station, TX, USA). Descriptive statistics were calculated for all variables. Normality of quantitative variables was assessed using the Shapiro–Wilk test. Since most indicators did not follow a normal distribution, non-parametric tests were used. The Chi-square test was applied for categorical variables, and the Kruskal–Wallis test for continuous variables, followed by Mann–Whitney U post hoc comparisons with Bonferroni adjustment when required. A 95% confidence level and a significance level of $p<0.05$ were used. Microsoft Excel 365 (Microsoft Corporation, Redmond, WA, USA) was used to organize and present the final tables.

The study protocol was approved by the Research Regulatory Affairs Office of Universidad Peruana Cayetano Heredia (ethical file: CAR-DUARI-O-225-25). Confidentiality was ensured by anonymizing identifying data. The manuscript follows the STROBE guidelines for cross-sectional observational studies.

RESULTS

A total 825 records were identified in the initial search. After applying the eligibility criteria related to institutional affiliation and data completeness, 584 Peruvian dental publications indexed in Scopus between 2013 and 2023 were included in the analysis. The university with the highest contribution was Universidad Científica del Sur (UCSUR), accounting for 34.25% of all publications, followed by Universidad Peruana Cayetano Heredia (UPCH), Universidad Nacional Mayor de San Marcos (UNMSM), Universidad Nacional Federico Villarreal (UNFV), and Universidad de San Martín de Porres (USMP) (Table 1).

Regarding temporal distribution, scientific output showed a marked increase beginning in 2019. From 2013 to 2018, annual production remained below 22 documents, whereas the highest peaks were observed in 2021 and 2023. This upward trend was consistent across most institutions, particularly UCSUR, which maintained the highest volume during the years of greatest productivity. No statistically significant association was found between the year of publication and university affiliation ($p=0.286$) (Table 1).

Original articles were the most frequent publication type (72.43%), particularly from UCSUR and UPCH. Literature reviews and systematic reviews followed in prevalence. Distinct institutional patterns were observed; for example, UPCH contributed nearly one third of all systematic reviews, whereas UNMSM produced the highest proportion of editorials. However, no significant association was observed between publication type and university affiliation ($p=0.777$) (Table 1).

Analysis by thematic area showed that Public Oral Health was the most frequently represented field, comprising one quarter of the total output. High contributions were also observed in Periodontics and Oral Medicine and Pathology. Institutional specialization was evident: UCSUR produced the majority of publications in Implantology and Orthodontics and Dentofacial Orthopedics. A statistically significant association was found between thematic area and university affiliation ($p=0.016$) (Table 1).

The mean number of citations per publication was 6.32 ± 14.29 (median: 2.00), with significant differences across universities ($p<0.001$). UPCH achieved the highest citation impact, followed by USMP and UCSUR, while UNMSM and UNFV showed the lowest means. For scientific productivity, defined as the mean number of citations relative to total scientific production, UPCH demonstrated the strongest balance between impact and volume, whereas UCSUR led in total production, but with moderate impact (Fig. 1, Table 2).

Mean number of authors per publication was 5.75 ± 0.27, differing significantly among institutions ($p=0.007$), with USMP having the highest, and UCSUR and UNMSM the lowest values (Table 2).

Collaboration patterns revealed that multiple collaboration was the most common structure (58.73%), followed by simple collaboration and no collaboration. UCSUR generated the largest share of publications with multiple collaboration, whereas UNFV had the lowest proportion of papers without

Table 1. Scientific production in dentistry from Peruvian universities in Scopus during 2013–2023, by year of publication, type of publication and thematic area

	n	%	Affiliation university										p*
			Universidad Científica del Sur		Universidad Nacional Mayor de San Marcos		Universidad Peruana Cayetano Heredia		Universidad de San Martín de Porres		Universidad Nacional Federico Villarreal		
			n	%	n	%	n	%	n	%	n	%	
Total	584	100.00	200	34.25	114	19.52	125	21.40	72	12.33	73	12.50	
Year of publication													
2013	13	2.23	2	15.38	1	7.69	5	38.46	5	38.46	0	0.00	0.286
2014	15	2.57	4	26.67	0	0.00	4	26.67	7	46.67	0	0.00	
2015	11	1.88	3	27.27	0	0.00	7	63.64	1	9.09	0	0.00	
2016	14	2.40	4	28.57	0	0.00	9	64.29	1	7.14	0	0.00	
2017	19	3.25	2	10.53	2	10.53	10	52.63	5	26.32	0	0.00	
2018	22	3.77	8	36.36	2	9.09	6	27.27	6	27.27	0	0.00	
2019	59	10.10	19	32.20	13	22.03	14	23.73	10	16.95	3	5.08	
2020	95	16.27	34	35.79	28	29.47	10	10.53	8	8.42	15	15.79	
2021	127	21.75	47	37.01	30	23.62	19	14.96	13	10.24	18	14.17	
2022	106	18.15	43	40.57	23	21.70	19	17.92	7	6.60	14	13.21	
2023	103	17.64	34	33.01	15	14.56	22	21.36	9	8.74	23	22.33	
Type of publication													
Letter to the editor / Editorial	36	6.16	10	27.78	13	36.11	5	13.89	2	5.56	6	16.67	0.777
Literature review	52	8.90	19	36.54	11	21.15	1	1.92	10	19.23	11	21.15	
Case report	34	5.82	14	41.18	12	35.29	6	17.65	2	5.88	0	0.00	
Original article	423	72.43	145	34.28	75	17.73	101	23.88	46	10.87	56	13.24	
Systematic review	39	6.68	12	30.77	3	7.69	12	30.77	12	30.77	0	0.00	
Thematic area													
Dental Public Health	146	25.00	38	26.03	30	20.55	40	27.40	18	12.33	20	13.70	0.016
Endodontics	24	4.11	8	33.33	1	4.17	8	33.33	2	8.33	5	20.83	
Oral and Maxillofacial Pathology	81	13.87	16	19.75	21	25.93	14	17.28	12	14.81	18	22.22	
Oral and Maxillofacial Surgery	26	4.45	11	42.31	7	26.92	2	7.69	4	15.38	2	7.69	
Orthodontics and Dentofacial Orthopedics	62	10.62	34	54.84	16	25.81	9	14.52	1	1.61	2	3.23	
Pediatric Dentistry	23	3.94	7	30.43	8	34.78	4	17.39	3	13.04	1	4.35	
Periodontics	105	17.98	40	38.10	16	15.24	26	24.76	16	15.24	7	6.67	
Prosthodontics and Restorative Dentistry	70	11.99	22	31.43	8	11.43	15	21.43	11	15.71	14	20.00	
Oral Implantology	10	1.71	7	70.00	1	10.00	0	0.00	0	0.00	2	20.00	
Oral and Maxillofacial Radiology	37	6.34	17	45.95	6	16.22	7	18.92	5	13.51	2	5.41	

n: Absolute frequency. %: Relative frequency. p: Statistical significance.
*Chi-square test corrected by Yates

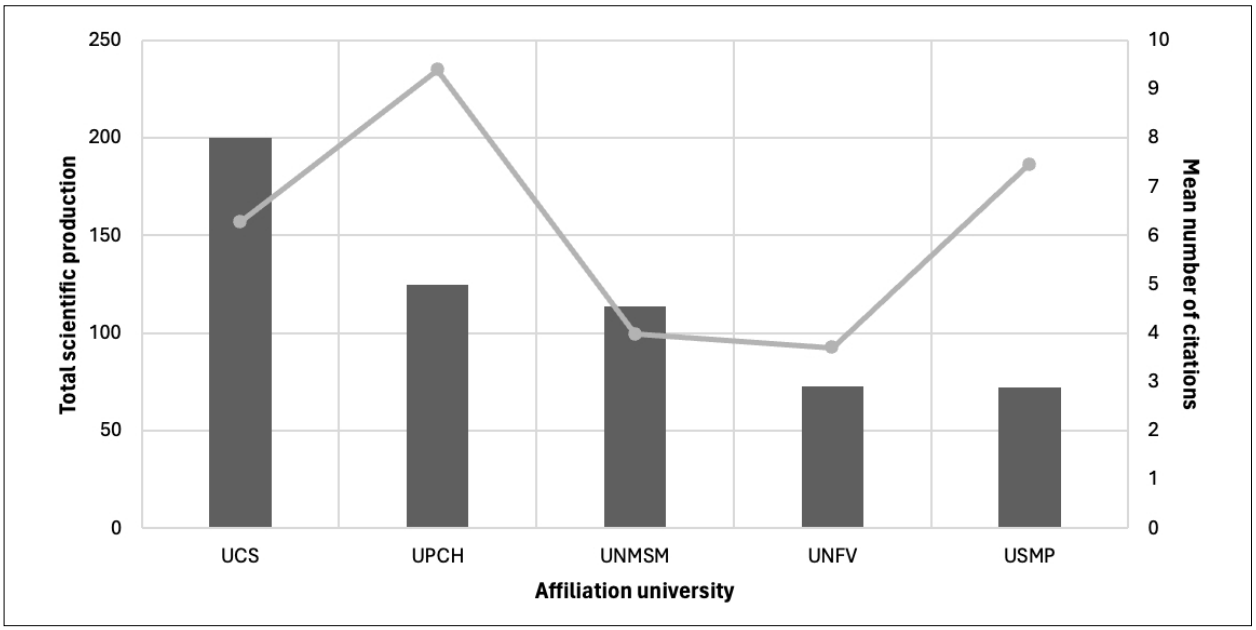

Fig. 1: Scientific productivity of Peruvian universities in dentistry: Mean number of citations relative to total scientific production, 2013–2023

Table 2. Scientific production in dentistry from Peruvian universities in Scopus during 2013–2023, by number of citations and number of authors per publication

	n	%	Number of citations					Number of authors				
			X	SD	Mdn	IQR	p*	X	SD	Mdn	IQR	p*
Total	584	100.00	6.32	14.29	2.00	6.00		5.75	0.27	5.00	2.00	
University affiliation												
UCSUR	200	34.25	6.28	11.84	2.00ab	7.00		5.12	2.21	5.00a	3.00	
UNMSM	114	19.52	3.98	9.46	1.00ac	3.00		4.91	1.88	5.00b	3.00	
UPCH	125	21.40	9.40	21.67	4.00cde	9.00	<0.001	5.69	4.91	5.00c	3.00	0.007
USMP	72	12.33	7.46	15.04	1.00d	7.50		8.82	16.37	5.00	4.00	
UNFV	73	12.50	3.70	7.76	1.00be	4.00		5.84	1.91	6.00abc	1.00	

n: Absolute frequency. %: Relative frequency. p: Statistical significance.
X: Mean. SD: Standard Deviation. Mdn: Median. IQR: Interquartile Range. p: Statistical significance.
*Kruskal-Wallis test with Mann-Whitney U post hoc comparisons; groups sharing the same letter notation indicate statistically significant differences ($p < 0.05$).

collaboration. A significant association was found between collaboration type and university affiliation ($p<0.001$) (Table 3).

Regarding collaboration regions, partnerships with Peruvian institutions were the most frequent (45.45%), with UNMSM leading this category. Collaborations with South American institutions accounted for roughly one fifth of all cases, mainly driven by UCSUR. Europe and North America represented smaller proportions, led primarily by UPCH and UCSUR, respectively. No significant association was found between collaboration region and university affiliation ($p=0.237$) (Table 3).

DISCUSSION

Scientific production at Peruvian schools of dentistry increased notably between 2013 and 2023, particularly in recent years. The 584 Scopus-indexed publications identified reflect a sustained effort to strengthen university research, which may be associated with institutional strategies aimed at improving international visibility, academic productivity requirements, and growing emphasis on research as a core component of professional training[9,10].

Before the enactment of University Law No. 30220 in 2014, research was not considered essential

Table 3. Scientific production in dentistry from Peruvian universities in Scopus during 2013–2023, by collaboration patterns

	n	%	Affiliation university										p
			Universidad Científica del Sur		Universidad Nacional Mayor de San Marcos		Universidad Peruana Cayetano Heredia		Universidad de San Martín de Porres		Universidad Nacional Federico Villarreal		
			n	%	n	%	n	%	n	%	n	%	
Total	584	100.00	200	34.25	114	19.52	125	21.40	72	12.33	73	12.50	
Collaboration status													
Single-institution	152	26.03	44	28.95	44	28.95	32	21.05	10	6.58	22	14.47	
Multi-institutional	343	58.73	122	35.57	49	14.29	77	22.45	45	13.12	50	14.58	<0.001*
No collaboration	89	15.24	34	38.20	21	23.60	16	17.98	17	19.10	1	1.12	
Collaboration regions													
Peruvian University + Peruvian Institutions	225	45.45	46	20.44	70	31.11	19	8.44	25	11.11	65	28.89	
Peruvian University + South American Institutions	110	22.22	60	54.55	9	8.18	31	28.18	7	6.36	3	2.73	
Peruvian University + Central American Institutions	7	1.41	4	57.14	3	42.86	0	0.00	0	0.00	0	0.00	
Peruvian University + North American Institutions	26	5.25	13	50.00	2	7.69	8	30.77	2	7.69	1	3.85	
Peruvian University + Asian Institutions	7	1.41	3	42.86	0	0.00	1	14.29	2	28.57	1	14.29	
Peruvian University + African Institutions	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	
Peruvian University + Oceanian Institutions	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	
Peruvian University + European Institutions	29	5.86	9	31.03	0	0.00	15	51.72	5	17.24	0	0.00	
Peruvian University + Peruvian & European Institutions	1	0.20	0	0.00	0	0.00	0	0.00	0	0.00	1	100.00	
Peruvian University + South American & Central American Institutions	9	1.82	4	44.44	0	0.00	4	44.44	1	11.11	0	0.00	
Peruvian University + South American, Central American & North American Institutions	3	0.61	0	0.00	0	0.00	3	100.00	0	0.00	0	0.00	
Peruvian University + South American, Central American, North American, Asian, African, Oceanian & European Institutions	2	0.40	0	0.00	0	0.00	1	50.00	1	50.00	0	0.00	0.237**
Peruvian University + South American, Central American, North American & European Institutions	3	0.61	0	0.00	0	0.00	2	66.67	1	33.33	0	0.00	
Peruvian University + South American & North American Institutions	34	6.87	19	55.88	5	14.71	8	23.53	2	5.88	0	0.00	
Peruvian University + South American, North American, Asian, African & European Institutions	3	0.61	0	0.00	0	0.00	1	33.33	2	66.67	0	0.00	
Peruvian University + South American, North American, Asian & European Institutions	1	0.20	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	
Peruvian University + South American, North American & European Institutions	3	0.61	1	33.33	1	33.33	1	33.33	0	0.00	0	0.00	
Peruvian University + South American, Asian, African & European Institutions	2	0.40	0	0.00	0	0.00	0	0.00	2	100.00	0	0.00	
Peruvian University + South American, Asian & European Institutions	2	0.40	1	50.00	0	0.00	1	50.00	0	0.00	0	0.00	
Peruvian University + South American & European Institutions	10	2.02	3	30.00	1	10.00	4	40.00	1	10.00	1	10.00	

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Table 3. (cont.)

	n	%	Affiliation university										p
			Universidad Científica del Sur		Universidad Nacional Mayor de San Marcos		Universidad Peruana Cayetano Heredia		Universidad de San Martín de Porres		Universidad Nacional Federico Villarreal		
			n	%	n	%	n	%	n	%	n	%	
Peruvian University + North American & Asian Institutions	1	0.20	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	
Peruvian University + North American, Asian, Oceanian & European Institutions	1	0.20	0	0.00	0	0.00	0	0.00	1	100.00	0	0.00	
Peruvian University + North American & African Institutions	2	0.40	0	0.00	0	0.00	2	100.00	0	0.00	0	0.00	
Peruvian University + North American & European Institutions	10	2.02	3	30.00	0	0.00	6	60.00	1	10.00	0	0.00	
Peruvian University + Asian & European Institutions	4	0.81	0	0.00	1	25.00	2	50.00	1	25.00	0	0.00	

n: Absolute frequency. %: Relative frequency. p: Statistical significance.
*Chi-square test
**Chi-square test corrected by Yates

or mandatory within Peruvian universities. This legislation established research as a central responsibility and encouraged the active participation of faculty, students, and graduates in scientific activities and collaboration networks at national and international levels[11,12]. This regulatory change marked a turning point in the Peruvian higher education system by reinforcing the role of research and promoting the development and retention of qualified researchers[9].

The results of this study show that dental scientific output did not increase immediately following the implementation of the law. The most pronounced growth occurred between 2019 and 2023, peaking in 2021. This suggests that, although the law provided a favorable framework, the full impact materialized gradually as universities expanded incentives, research units, and support structures. The COVID-19 pandemic also accelerated scientific output, as international analyses have shown an increase in publications related to biosafety and oral public health during 2020–2022[13].

Institutional differences during the study period contrast with previous findings. While Mayta-Tovalino et al. reported UPCH as the most productive institution during 2014–2019, the present study identified UCSUR as the leading contributor during 2013–2023. These discrepancies may stem from differences in the study periods, evolving institutional strategies, funding, and faculty research profiles. Likewise, the institution with the lowest output differed between studies, which reinforces the importance of long-term, equitable strategies to enhance dental research capacity across all universities[10].

The observed upward trend, with a peak in 2021, may be partly explained by post-pandemic dynamics, strengthening of research offices, and implementation of incentive policies. Similar irregular growth patterns have been described in other Latin American countries, where productivity often fluctuates due to economic, administrative, and institutional factors[14].

The predominance of original articles aligns with previous Peruvian studies reporting that empirical research represents more than 70% of dental publications[9]. The lack of significant association between publication type and institutional affiliation suggests that research output is not strongly influenced by editorial structures or university-specific preferences.

Regarding thematic areas, Public Oral Health was the most frequent category, whereas Implantology was the least frequent. This distribution may reflect the national emphasis on prevention, resource limitations for advanced clinical research, and the socially oriented mission of Peruvian dental schools[15]. The significant association between thematic area and university affiliation indicates institutional specialization patterns, consistent with regional findings[9,16].

In terms of citation impact, UPCH showed the highest mean number of citations per publication, consistent with its longstanding research trajectory, international collaborations, and publication in high-impact journals. This pattern aligns with evidence indicating that institutional reputation and international cooperation are associated with increased visibility and citation rates[17,18]. Conversely, the lower means observed for some institutions may relate to reduced international exposure, publication language barriers, or weaker collaborative networks. The higher mean number of authors observed in USMP may reflect extensive interinstitutional collaboration or internal co-authorship policies. This is consistent with the perspective of Põder, who notes that large author groups often reflect interdisciplinary collaboration rather than higher impact[19].

In the analysis of collaboration networks, multiple collaboration was predominant, although most partnerships were national. This suggests opportunities to strengthen international collaboration, which has been recognized as a key factor in enhancing scientific performance[17]. The limited partnerships with certain regions, such as Africa and Oceania, indicate unexplored opportunities for broader global engagement.

This study has several limitations. As it focuses on the five Peruvian universities with the highest productivity, the results cannot be extrapolated to all institutions in the country. The exclusive reliance on Scopus may exclude valuable research published in local or regional journals not indexed in this database. Furthermore, the cross-sectional design prevents causal inference, and bibliometric indicators do not assess methodological quality, originality, or social impact.

Nevertheless, these findings provide meaningful insights into the evolution of dental research in Peru. Future work should integrate qualitative analyses to explore underlying dynamics of scientific production. Comparative regional studies could contextualize Peruvian productivity within broader Latin American trends. Additionally, expanding the concept of scientific production beyond high-impact journals—considering theses, technical reports, and books—would contribute to a more holistic understanding of the national research ecosystem.

CONCLUSION

This bibliometric analysis demonstrates a positive evolution of Peruvian dental scientific production between 2013 and 2023, characterized by sustained growth and increasing institutional consolidation. The marked rise in publications after 2019 suggests a delayed yet effective response to national research policies and institutional strengthening efforts. The shifting leadership among universities highlights the dynamic nature of research development across institutions.

The predominance of Public Oral Health research reflects alignment with national health priorities, while differences in citation impact indicate varying levels of research maturity and visibility. Collaboration patterns point to the need for stronger international partnerships, particularly with underrepresented regions, to enhance global integration and scientific impact.

Overall, these findings underscore the need for differentiated strategies to support equitable research capacity, foster strategic international collaboration, and encourage publication in high-impact outlets. The conclusions apply to the institutions analyzed and should be interpreted within the context of the study's scope and limitations.

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CONFLICT OF INTEREST

The authors declare no potential conflicts of interest regarding the research, authorship and/or publication of this article.

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