

Determinants of Citation Visibility in *Educación Médica Superior* Journal: A 28-Year Analysis

Determinantes de la visibilidad en citaciones en *Educación Médica Superior*: un análisis de 28 años

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ABSTRACT

Introduction: Citation analyses provide critical insights into the dynamics of scholarly visibility and academic influence. The *Educación Médica Superior* journal, a prominent Latin American journal, has not previously been the subject of a comprehensive citation-based assessment.

Objective: To identify and analyze the thematic, authorship, institutional, and geographic factors associated with citation visibility in the journal between 1996 and 2024.

Methods: A retrospective bibliometric study was conducted using Scopus-indexed articles published over a 28-year period. Thematic categories, gender representation, institutional affiliations, countries of origin, and language of publication were examined. Descriptive

statistics and correlation analyses were performed using RStudio, and results were visualized using specialized bibliometric tools.

Results: Major determinants of citation impact included topic relevance, gender balance in authorship especially in first author positions collaborative patterns, and language of publication. English-language articles, despite being fewer, garnered a disproportionately high share of total citations. Institutional contributions were concentrated in a few Cuban universities, although citation impact varied independently of output volume.

Conclusions: Academic visibility in the journal depends more on thematic alignment, linguistic accessibility, and institutional support than on sheer productivity. Strategic editorial and collaborative practices are essential to increase the global impact of regional medical education journals.

Keywords: bibliometric analysis; citation impact; medical education; scientific visibility; academic publishing; gender equity; international collaboration; language of publication; institutional contribution; Latin American journals.

RESUMEN

Introducción: Los análisis de citas proporcionan información clave sobre la dinámica de la visibilidad académica y la influencia científica. La revista *Educación Médica Superior*, una destacada publicación latinoamericana, no había sido objeto de una evaluación exhaustiva basada en citas.

Objetivo: Identificar y analizar los factores temáticos, de autoría, institucionales y geográficos asociados con la visibilidad en citas de la revista entre 1996 y 2024.

Métodos: Se realizó un estudio bibliométrico retrospectivo utilizando los artículos indexados en Scopus publicados durante un período de 28 años. Se examinaron las categorías temáticas, la representación de género, las afiliaciones institucionales, los países de origen y el idioma de publicación. Se aplicaron estadísticas descriptivas y análisis de correlación utilizando RStudio, y los resultados se visualizaron con herramientas bibliométricas especializadas.

Resultados: Los principales determinantes del impacto en citas incluyeron la relevancia temática, el equilibrio de género en la autoría especialmente en la primera autoría, los patrones de colaboración y el idioma de publicación. Los artículos en inglés, a pesar de ser menos numerosos, obtuvieron una proporción desproporcionadamente alta del total de citas. Las contribuciones institucionales se concentraron en unas pocas universidades cubanas, aunque el impacto en citas varió independientemente del volumen de producción.

Conclusiones: La visibilidad académica en la revista depende más de la alineación temática, la accesibilidad lingüística y el respaldo institucional que de la productividad

en sí misma. Las estrategias editoriales y de colaboración son fundamentales para aumentar el impacto global de las revistas regionales de educación médica.

Palabras clave: análisis bibliométrico; impacto de citas; educación médica; visibilidad científica; publicación académica; equidad de género; colaboración internacional; idioma de publicación; contribución institucional; revistas latinoamericanas.

Recibido: 24/06/2025

Aceptado: 30/06/2025

Introduction

Bibliometric studies and journal citations play a crucial role in understanding the dynamics of scientific research and its dissemination. These analyses provide valuable insights into publication trends, author collaborations, and the overall impact of research across various disciplines. By examining citation patterns, researchers can identify influential works and emerging topics, which in turn guide future lines of inquiry.⁽¹⁾

Bibliometric studies offer a quantitative assessment of research impact by measuring the influence of journals and individual articles. They highlight the most frequently cited works, which are often regarded as highly significant within the scientific community.⁽²⁾ Furthermore, these studies facilitate the identification of research trends and thematic areas. For example, investigations focusing on psychology and engineering sciences have revealed dominant topics and methodologies within those fields.^(2,3) Additionally, bibliometric analyses often uncover patterns of collaboration among authors and institutions, illustrating the global interconnectedness of research efforts.⁽³⁾

Citations function as indicators of research quality and relevance. The frequency with which a study is cited can guide scholars in selecting impactful literature to support their own work.⁽⁴⁾ Moreover, citations facilitate the dissemination of knowledge by linking related works, thereby promoting a more integrated understanding of scientific advancements.⁽⁵⁾

The importance of medical education as a science lies in its essential role in the training of competent health professionals who are capable of effectively integrating scientific knowledge into clinical practice. This integration is not only crucial for evidence-based medical practice but also directly contributes to improved health outcomes for the population.⁽⁶⁾

Moreover, it is essential to acknowledge the impact of academic journals specialized in medical education, as they serve as key platforms for the dissemination of research, pedagogical innovations, and educational models that address contemporary challenges in teaching health sciences. These publications make it possible to highlight advancements, promote critical reflection, and support curriculum decisions based on evidence, thereby strengthening both academic and professional development in the field.^(7,8,9)

In light of the above, the research question guiding the present study was: What patterns and determinants have influenced the citation impact of articles published in *Educación Médica Superior* journal from 1996 to 2024?

To answer the question and research assumptions, the proposed objective was to identify and analyze the thematic, authorship, institutional, and geographic factors associated with higher citation rates among articles published in the *Educación Médica Superior* journal between 1996 and 2024.

Methods

Study design

This was a documentary, retrospective, and descriptive investigation with a mixed-methods approach, as it analyzed both qualitative and quantitative data. A bibliometric method was employed to examine the scientific output published in the *Educación Médica Superior* journal from 1996 to 2024.

Data source

Data was collected from Elsevier® Scopus® database, in which the journal is indexed. All available digital articles were downloaded, including original articles, reviews, brief communications, and editorials.

Inclusion and exclusion criteria

All documents published by the journal between 1996 and 2024 with complete and accessible bibliographic information were included. Duplicates, non-academic editorial notes, calls for papers, and any documents without readable metadata were excluded.

Data collection and processing

The articles were extracted and organized in a Microsoft® Excel® data frame, with separate fields for first author and co-authors, title, institutional affiliation, country of origin, year of publication, number of citations, and language of publication.

In addition, articles were thematically classified according to predominant research lines, based on the UNESCO categories for Medical and Health Sciences, adapted to the context of medical education.

Study variables

The following variables were defined and collected for each included article:

- Authors' names: full names of each author as listed in the article header.
- Number of authors: total number of signatories per article.
- Authors' gender: inferred from the given name of each author using the “gender” package in RStudio®, which estimates gender (male, female, or undetermined) based on historical name databases.
- Authorship order: coded according to the position of each author within the byline.
- Article title: the title of the paper as published.
- Thematic area (Topic): Each article was assigned to a topic and classification rationale, as follows:
 - Bioethics and Health: Ethical issues in medical education and health research.
 - Intercultural Competencies: Skills for effective interaction across cultures in medical education contexts.
 - Education and Emerging Technologies: Integration of innovative technologies in health sciences teaching.
 - Teacher Training: Professional development of health science educators.
 - Graduate Education: Medical training after undergraduate graduation.
 - Research: Studies on research methods and practices in medical education.
 - Quality Management: Processes to improve and maintain high standards in medical education.
 - Resources and Media: Materials and tools used in medical teaching.
 - University, Society, and Health: Interrelations between academic institutions, communities, and health systems.
 - Emotional and Communicative Competencies: Development of interpersonal and communication competencies in health professionals.
 - Health of Medical Students and Faculty: Well-being and specific needs of students and faculty in the health field.
 - Curriculum Design: Planning and structuring of educational programs in medical sciences.

- Educational Assessment: Evaluation methods for learning outcomes and educational program effectiveness in medicine.
- Didactics and Pedagogy: Teaching theories and practices specific to medical education.
- Institutional affiliation: academic or research institution as declared by each author. All affiliations were normalized to achieve homogeneity in their distribution and counting, due to their dispersed presence in the metadata of the article harvests.
- Country of origin: country corresponding to the primary institutional affiliation of the author.
- Year of publication: the year the article was officially published.
- Number of citations: citation count of the article according to Scopus.
- Language of publication: whether the article was published in Spanish, English, or another language.

Data analysis

A bibliometric analysis was conducted using qualitative and descriptive statistics (absolute and relative frequencies) via RStudio® version 2025.05.0+496. Indicators such as annual productivity, authorship patterns (including co-authorship index and most productive authors), geographic distribution, thematic focus, and historical evolution of publications were calculated.

The cross-country collaborative analysis was conducted through the shiny version of “bibliometrix”, a specialized RStudio package for the development of bibliometric reports and available free of charge.

Additionally, relationships between variables, such as year of publication and number of authors, were explored using correlation analysis and trend graphs.

All research data from this study are available in the Mendeley Data repository via the following link: <https://doi.org/10.17632/78n3p3hmmr.1>, contributing to transparency and reproducibility in alignment with Open Science principles.

Ethical considerations

As the study was based exclusively on open-access sources and previously published data, ethics committee approval was not required. However, principles of scientific integrity were strictly observed, and all sources used were properly cited.

The references used in this manuscript were processed through the Gender Balance Assessment Tool (GBAT) to ensure gender equity in citations. This online tool is available at: <https://jlsurner.shinyapps.io/syllabustool/>

Results

Data were retrieved from 1291 articles and 3170 cites, reported in Scopus up to the time of the research.

Figure 1 illustrates the annual scientific output and corresponding citation impact of the journal from 1996 to 2024. A steady increase in the number of published articles is observed from 1996 (5 articles) through 2016, reaching a peak in 2016 with 103 articles. This represents the highest level of productivity throughout the period analyzed.

In terms of citation impact, a substantial increase is noted beginning in 2009, with a sharp rise culminating in 2015, which marks the peak with over 350 citations. This surge indicates a growing influence on the journal's publications during that period. After 2015, citation counts began to decline, though notable spikes can still be seen in 2020 and 2021.

The post-2021 period shows a decline in both the number of published articles and total citations, likely due to a combination of delayed indexing, reduced output, or reduced citation time windows for recent publications.

Overall, the data suggest that the journal experienced significant growth in both productivity and impact from the early 2000s until mid-2010s, followed by a gradual decrease in both metrics in more recent years.

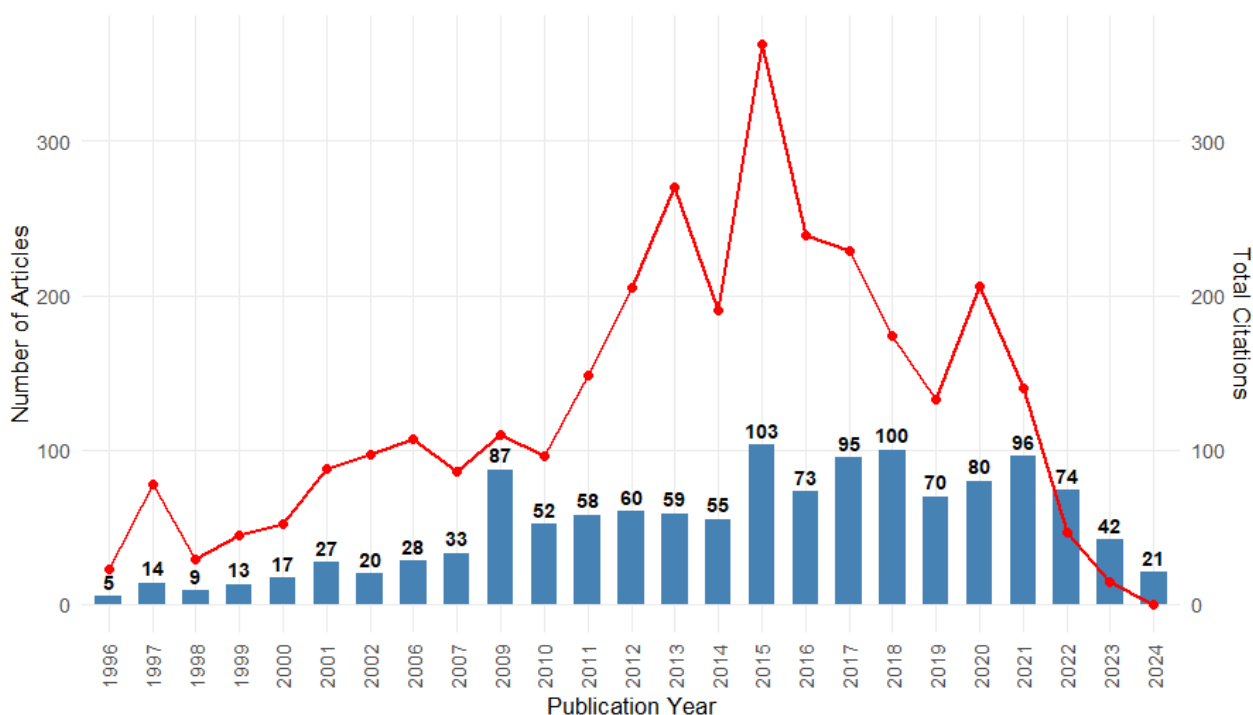
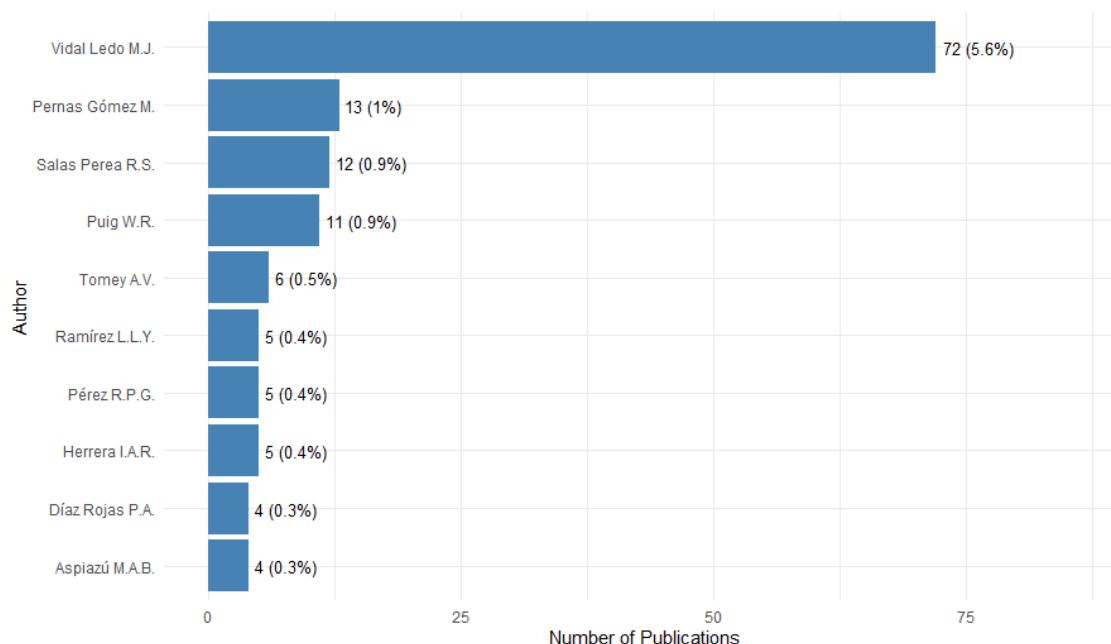


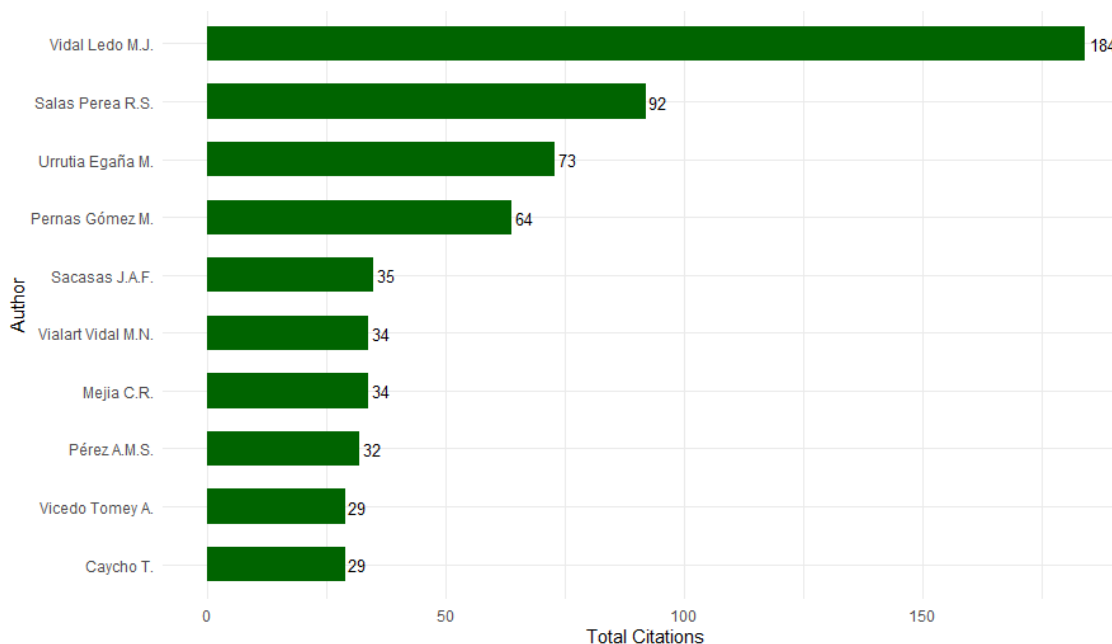
Fig. 1 - Annual scientific output and citation impact of the journal (1996-2024)

Figure 2-a) presents the authors with the highest number of published articles in the journal between 1996 and 2024. Vidal Ledo M.J. is the most prolific contributor, with 72 publications, accounting for 5.6% of the total scientific output. This significantly exceeds the output of other authors, such as Pernas Gómez M. (13 articles, 1.0%), Salas Perea R.S. (12, 0.9%), and Puig V.R. (11, 0.9%). The remaining authors listed have each published fewer than 10 articles, suggesting a high concentration of authorship among a limited number of contributors.

Figure 2-b) displays the most cited authors, highlighting the impact of their work within the academic community. Vidal Ledo M.J. again ranks first with 184 citations, evidence of a strong influence alongside high productivity. This is followed by Salas Perea R.S. with 92 citations and Urrutia Egaña M. with 73 citations. Other authors such as Pernas Gómez M. (64 citations) and Sacasas J.A.F. (35 citations) also demonstrate notable academic visibility. While there is some overlap between the most productive and most cited authors, the differences indicate that publication volume does not always correspond directly to citation impact.



a



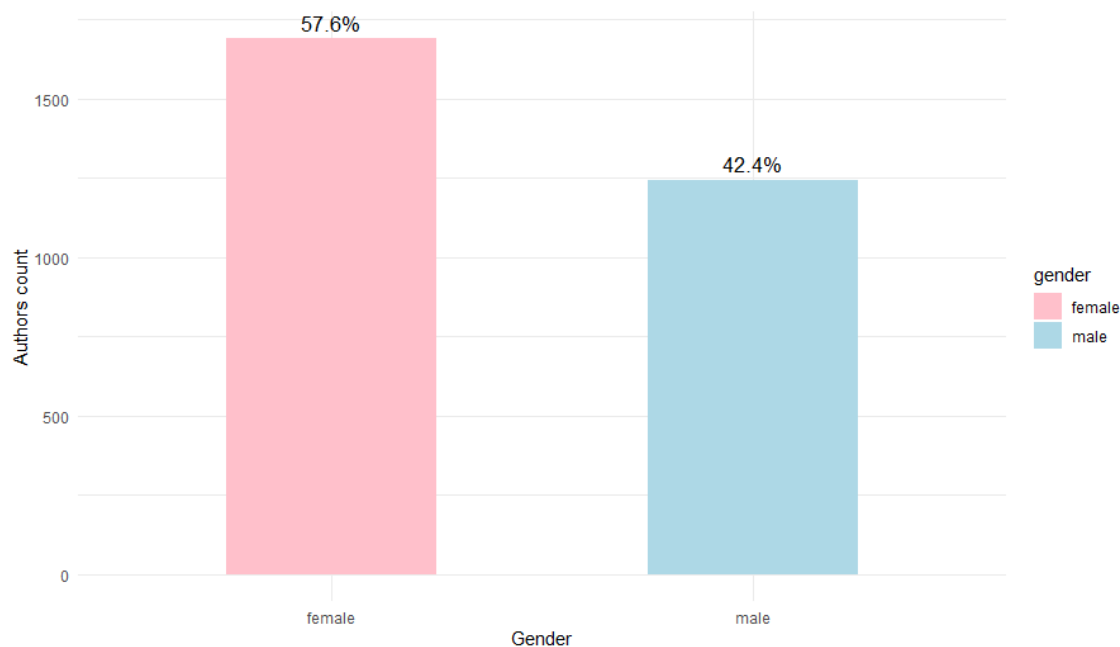
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Fig. 2 - a) Most productive and b) Most cited authors in the journal (1996-2024)

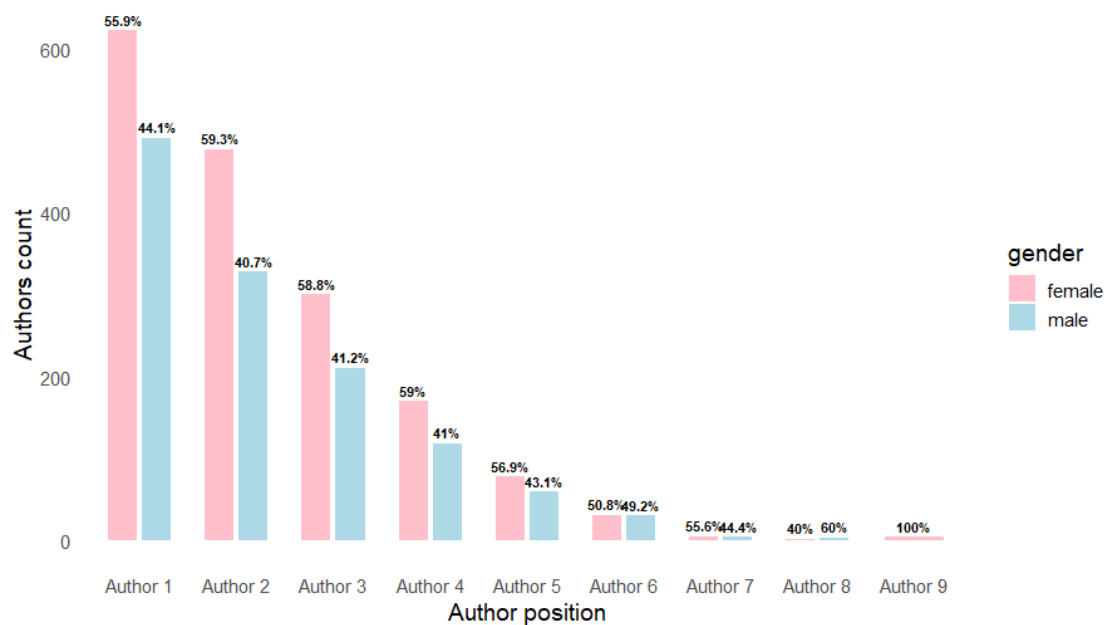
Figure 3-a illustrates the overall distribution of authors by gender in the analyzed dataset. Female authors accounted for 57.6% of the total, whereas male authors represented 42.4%, indicating a predominance of women in scientific authorship within the journal over the analyzed period. This finding suggests a favorable trend toward gender inclusivity in general participation.

Figure 3-b offers a more nuanced view by examining gender distribution across different authorship positions. Women were the majority in the first author position (55.9% female vs. 44.1% male) and in positions 2, 5, 6, and 7. Notably, men slightly outnumbered women in the third and fourth author positions, with 58.8% and 59% representation, respectively. In the eighth author position, men also held a majority (60%), while the ninth position was exclusively female (100%), although this category represents a very small subset of authors.

Overall, the data suggest a relatively balanced gender representation with a slight female predominance, particularly in leading (first) author positions, which is a positive indicator for gender equity in academic authorship. Nonetheless, some mid-author positions still show a male predominance, indicating areas where further efforts could help achieve more equitable representation.



a



b

Fig. 3 - Academic summary of gender distribution results. a) General and b) By author position.

Figure 4 displays the relationship between the thematic distribution of published articles and the total citations received across different academic topics. A dual-axis format is

employed, with blue bars representing the number of articles per topic and a red line indicating the corresponding citation counts.

The topic “Health, Medical Students, and Faculty” stands out as the most frequently addressed, with 315 articles and nearly 800 citations, indicating both high productivity and impact. This is followed by “Intercultural Competencies” (280 articles) and “Quality Management” (224 articles), both of which also show elevated citation counts, suggesting sustained academic interest and influence.

“Education and Emerging Technologies” (97 articles) notably surpasses other lower-frequency topics in citations, showing that while its publication volume is moderate, its scholarly impact is relatively strong. Conversely, topics such as “Didactics and Pedagogy”, “Resources and Media”, and “Graduate Education” exhibit low publication numbers and limited citation impact, pointing to potential underrepresentation or reduced academic resonance.

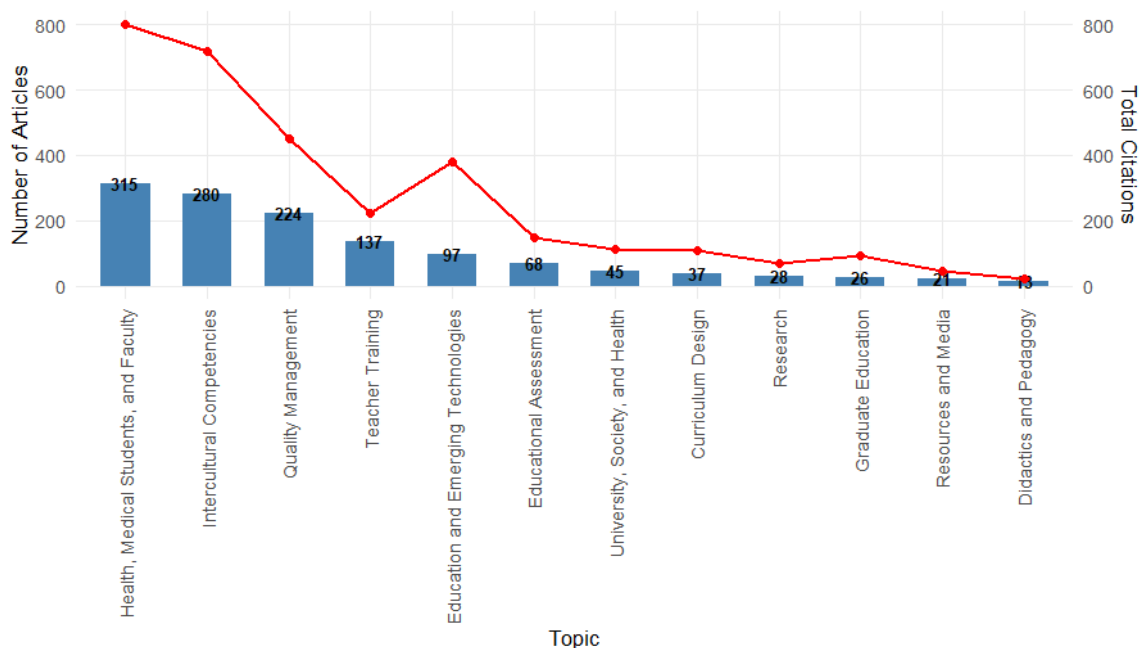


Fig. 4 - Relationship between topics and citations in the journal (1996-2024).

Figure 5 depicts the international collaboration network established through co-authored publications in the journal between 1996 and 2024. Based on bibliometric data, the country with the highest number of international collaborations is Cuba, with a total of 61 confirmed collaborative links, affirming its central role in the journal’s scientific ecosystem.

Significant regional partnerships were observed with Ecuador (28 collaborations), Chile (13), and Colombia (13), indicating strong South-South cooperation within Latin America.

In addition, European collaborations particularly with Spain (12 collaborations) reflect longstanding academic ties and linguistic affinity.

Figure 5-a) and b) also presents the top ten countries by the number of articles published in the journal, along with their corresponding citation counts. Cuba is by far the most prolific contributor, with 950 articles and over 2.200 citations, making it the clear epicenter of the journal's scholarly production and influence.

Following Cuba, Chile (85 articles), Peru (60), Mexico (37), Colombia (60), and Ecuador (38) represent significant regional contributors, although their citation counts remain markedly lower than Cuba's. Spain, Venezuela, Dominican Republic, and Costa Rica also appear in the top ten, but with fewer than 20 articles each and limited citation impact.

These findings emphasize the leading role of Cuban academia in the journal's output, while also revealing opportunities for increasing both publication volume and citation visibility among other participating countries.



Fig. 5 a and b - Geographic distribution and citation impact by country in the journal (1996-2024)

Figure 6 combines the analysis of publication volume and citation impact for the 20 most represented institutional affiliations in the journal from 1996 to 2024. The blue bars indicate the number of articles published, while the red line represents the total number of citations received by each institution.

The *Universidad de Ciencias Médicas de La Habana* is the leading institution both in volume and impact, with 201 articles and nearly 500 citations. It is followed by the *Escuela Nacional de Salud Pública*, which published 170 articles and accumulated a comparable level of citations. These two institutions clearly dominate both in productivity and scholarly influence.

Other affiliations, such as the *Universidad de Ciencias Médicas de Villa Clara*, *Santiago de Cuba*, and the *Ministerio de Salud Pública*, contribute notably with between 20 and 30 articles each, but their citation counts vary, indicating differing levels of research impact despite similar output.

The remaining institutions show lower publication frequencies typically under 20 articles and exhibit modest or minimal citation numbers, reflecting limited academic reach or specialization in less-cited areas.

This figure highlights the central role of major Cuban institutions in driving the journal's scientific output and citation profile, while also demonstrating the existence of substantial disparities in scholarly impact across similarly productive affiliations.

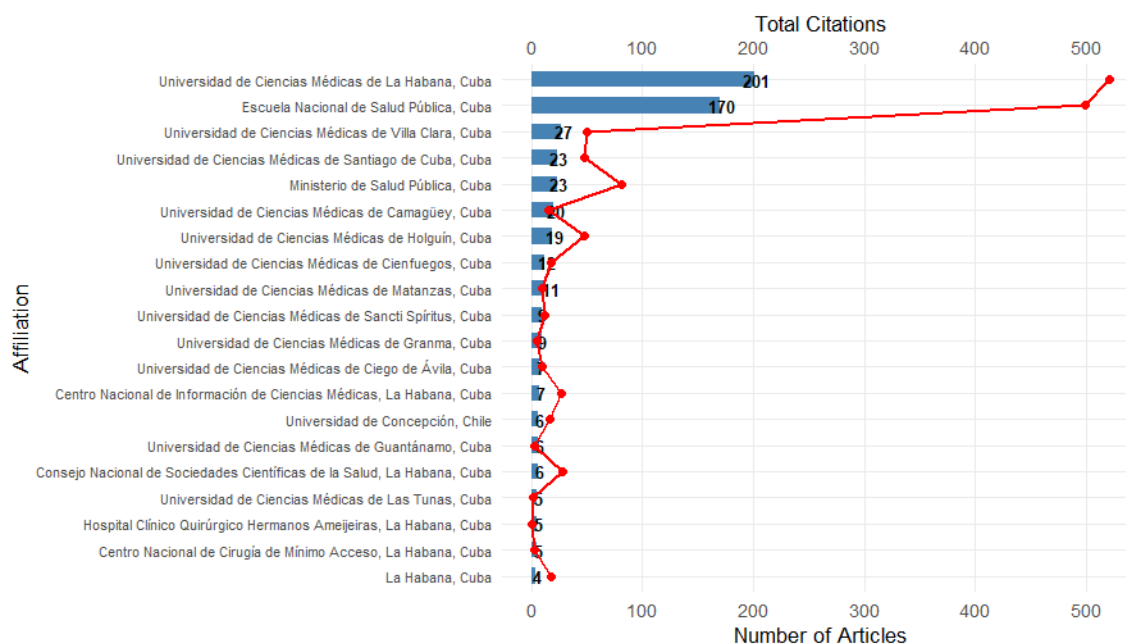


Fig. 6 - Top 20 institutional affiliations by number of articles and total citations (1996-2024).

Figure 7 reveals a notable contrast between the volume of articles published in Spanish and English and their corresponding citation impact. Specifically, articles in English (n=242) were published approximately 4.3 times less than those in Spanish (n=1,049). Despite this disparity, English-language publications accumulated nearly 800 citations, which represents more than 35% of the total citations, while Spanish-language publications reached just over 2,200 citations.

This means that, although English-language articles constitute less than a quarter of the total publication volume, they received almost half as many citations as the Spanish-language ones. The findings highlight the disproportionately higher impact of articles published in English, likely due to their greater accessibility and visibility in international academic networks.

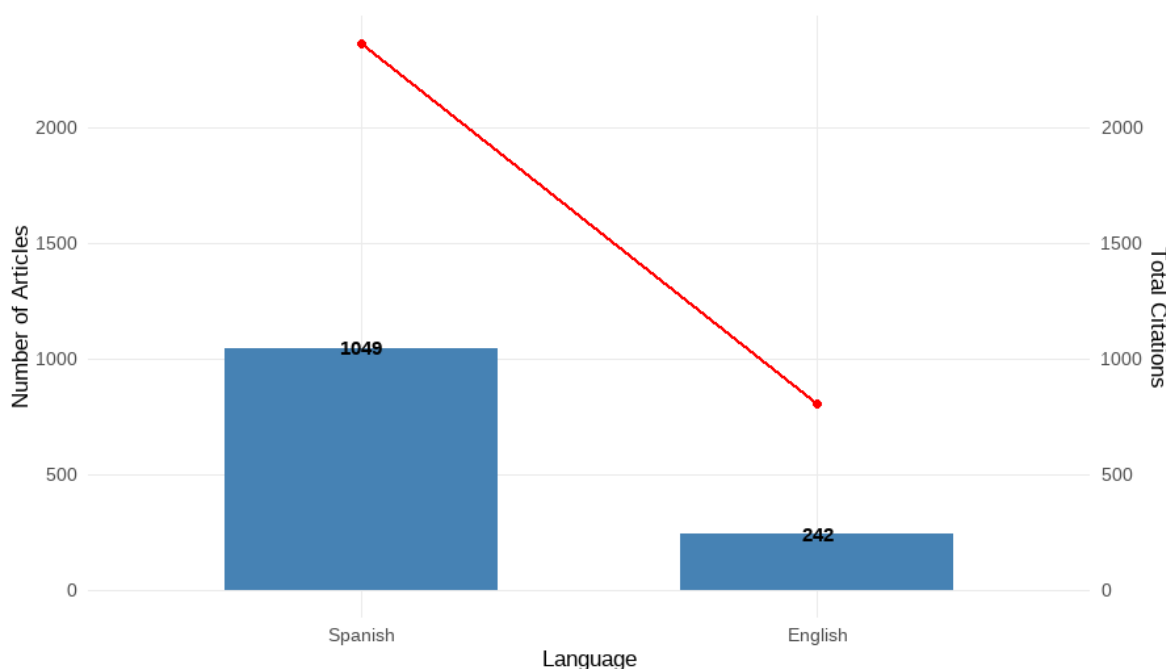


Fig. 7 - Articles and Total Citations by Language of Publication (1996-2024).

Discussion

This study offered one of the most comprehensive longitudinal analyses of citation dynamics within a Cuban medical education journal indexed in an international database. By integrating bibliometric indicators with thematic, linguistic, and institutional dimensions, the research uncovered distinctive patterns that had not been previously

documented in the regional literature. Among the most salient findings was the identification of structural and content-based determinants that influenced academic visibility beyond mere publication frequency. The nuanced relationships between author characteristics, topic relevance, and language of dissemination provided novel insights into how scientific influence is constructed within specialized journals from the Global South.

The findings of this study revealed multiple factors that conditioned the visibility and citation impact in the *Educación Médica Superior* journal over a 28-year period. The comprehensive analysis suggested that both internal editorial dynamics and thematic, institutional, linguistic, and geographic determinants significantly influenced the observed patterns.

Firstly, the sustained growth in editorial productivity until the mid-2010s, followed by a subsequent decline in recent years, could be explained by various structural factors. The initial expansion was likely associated with institutional policies aimed at promoting scientific publication and the journal's consolidation within international databases such as Scopus. In contrast, the more recent decrease may have reflected a combination of editorial limitations, changes in journal management, citation cycle aging, and the inherent delay in academic recognition of newly published works, which typically require more time to be cited. According to the findings of Kuklin and Balyakina,⁽¹⁰⁾ Mesquita⁽¹¹⁾ and Zeyu,⁽¹²⁾ which are consistent with the results of the present study, active policies aimed at promoting scientific publishing should involve transparent editorial processes, rigorous peer review, and strengthening the credibility of the editorial board among leading scientists. Ongoing professional development and indexing in international databases such as Scopus are also considered essential for enhancing the journal's standing within the global academic community.

Regarding authorship, the concentration of publications among a small group of contributors marked by the dominance of certain individuals indicated a possible centralization of scientific output, potentially driven by the continued involvement of these authors in academic or editorial positions. However, the absence of a direct correlation between productivity and citation count in some cases suggested that frequent publication alone did not guarantee academic visibility. Other elements, such as thematic originality, methodological quality, and international projection, appeared to play a more decisive role in scholarly influence. The research conducted by Ackland⁽¹³⁾ also supports this perspective, demonstrating that the “superstar economy” contributes to a disproportionate concentration of scientific output among a limited group of individuals, thereby reinforcing the centralization of academic publishing. This pattern aligns with power law distributions frequently observed in scientific collaboration and citation networks, revealing notable inequalities in both scholarly recognition and research productivity.

The study of Syeda and Babu⁽¹⁴⁾ indicates that the concentration of publications within a small group of collaborators characterized by the dominance of certain influential authors and institutions suggests a centralization of scientific production. This trend impacts both

the diversity of perspectives and the dynamics of collaboration within academic communities. In other hand, the study from Zarif⁽¹⁵⁾ indicates that the concentration of publications within a small group of collaborators characterized by the dominance of certain influential authors and institutions suggests a centralization of scientific production. This trend impacts both the diversity of perspectives and the dynamics of collaboration within academic communities.

In terms of gender, the predominance of female authors, particularly in first authorship positions, was interpreted as a positive sign of gender equity in the field of medical education. Nevertheless, the higher male presence in intermediate authorship positions could have been linked to traditional hierarchical structures or to disciplinary distributions within more technical thematic areas, which have historically been male dominated. In alignment with the present study, the research by Madden *et al.*⁽¹⁶⁾ and Yamamura *et al.*⁽¹⁷⁾, asserts that the predominance of female authors, particularly in first authorship positions, reflects meaningful progress toward gender equity in medical education. The proportion of women as first authors increased significantly, rising from 6.6% in 1970 to 53.7% in 2019.⁽¹⁶⁾

On the other hand, studies by Giannos *et al.*,⁽¹⁸⁾ Shah *et al.*,⁽¹⁹⁾ and Hornstein *et al.*⁽²⁰⁾ reports that the participation of female first authors in topics related to medical education remains around 41% or lower, suggesting that gender equity in this field has not yet been fully achieved. These findings diverge from the results of the present investigation.

The thematic distribution showed that the most frequently published and cited topics likely reflected structural priorities in Cuban medical education, especially regarding student and faculty health, quality management, and intercultural competencies. The high citation impact of themes such as emerging technologies in education, despite their lower publication frequency, suggested that thematic innovation positively affected scientific visibility. Conversely, the limited resonance of topics such as pedagogy, teaching resources, and graduate education might have been associated with reduced internationalization or a perceived lack of novelty in global academic discourse. The research conducted by Manzano-Pérez *et al.*⁽²¹⁾ indicates that the use of new technologies in education enhances teaching quality and fosters self-directed learning, which can, in turn, lead to increased scientific visibility. Although the publication frequency on topics such as emerging technologies may be lower, their high citation impact suggests that these innovations hold substantial relevance in the educational field. This correlation implies that thematic innovation positively influences the recognition and visibility of scientific work, as it contributes to the development of improved skills and competencies among students.

International collaboration patterns confirmed Cuba's central role, consistent with its status as the journal's host country. Regional partnerships, particularly with Latin American countries, reflected a strong South-South cooperation dynamic, likely facilitated by linguistic and academic affinities. However, the limited citation impact of publications from other countries despite a notable volume in some cases highlighted the need to strengthen the quality and visibility of these contributions, potentially through broader

collaborative networks or bilingual publication strategies. Research indicates that publications from developing countries, particularly in Asia, often have lower citation rates despite increasing output.⁽²²⁾ This limited impact is attributed to factors such as language barriers and publication strategies. Studies show that papers have a greater impact in their immediate environments, with international collaborations generally receiving more citations due to multiple "immediate environments" and perceived higher quality.⁽²³⁾ To enhance visibility, authors may consider international collaboration⁽²⁴⁾ and publishing in reputable English-language journals rather than relying on translations of domestic journals.⁽²⁵⁾ Improving the accessibility and visibility of local academic journals could also contribute to enhancing research quality globally.⁽²²⁾ These findings highlight the need for developing countries to adopt strategies that increase international visibility and impact of their scientific contributions.

Institutional analysis showed that a few Cuban universities played a dominant role, likely due to public policies and resource allocations that favored these entities. Nevertheless, some institutions with similar publication outputs demonstrated low citation performance, possibly due to reduced international exposure, limited open access availability, or specialization in less frequently cited fields.

Finally, the linguistic analysis underscored a critical trend: despite the predominance of articles published in Spanish, English-language publications achieved a disproportionately higher citation rate. This disparity supported the notion that language of publication constituted a key determinant for global knowledge circulation.⁽²⁶⁾ The broader accessibility and reach of English-language articles especially within non-Spanish-speaking academic communities enhanced their visibility and placed them at a relative advantage compared to equivalent content published in Spanish.

Collectively, these findings suggested that scientific visibility depended not solely on publication volume, but rather on a network of interrelated factors. These included thematic alignment with global trends, the establishment of effective collaboration networks, strategic language choice, and institutional support underpinning academic output. Studies from Amano *et al.*⁽²⁷⁾ and Mazenod,⁽²⁸⁾ declared that language remains a major barrier to global circulation of scientific knowledge, with 35.6%⁽²⁷⁾ of biodiversity conservation papers not in English.

This study had some limitations that should be acknowledged. First, the analysis was restricted to data indexed in the Scopus® database, which may have excluded citations from other relevant sources not captured by this platform. Second, the classification of thematic areas, although systematically conducted, was based on adapted UNESCO categories and may have involved interpretative criteria subject to reviewer bias. Additionally, the estimation of author gender relied on automated name-based inference, which, while statistically reliable, does not fully account for cultural and individual variations. Finally, citation counts were considered as proxies for academic impact without adjusting for self-citations or disciplinary citation norms.

Despite these limitations, the study provided valuable insights into the structural and contextual factors that shape citation visibility in a Latin American medical education journal. The findings highlighted the multifactorial nature of academic influence, emphasizing that citation impact is not solely a function of publication quantity, but also of language accessibility, institutional backing, thematic relevance, and international collaboration. These results may inform editorial strategies, institutional policies, and regional scientific agendas aimed at enhancing the global reach and scholarly impact of journals rooted in developing contexts.

This study confirmed that citation visibility in the *Educación Médica Superior* journal is shaped by a complex interplay of editorial, thematic, institutional, linguistic, and geographic determinants. Factors such as gender equity in authorship, international collaboration, and the adoption of innovative and globally relevant research topics demonstrated a stronger association with citation impact than publication frequency alone. The predominance of English-language publications in terms of citation influence emphasized the strategic importance of language in global academic dissemination. Furthermore, institutional disparities revealed the role of resource allocation and open access availability in amplifying or limiting scholarly influence. These findings underscore the multifactorial nature of academic visibility and may inform strategies to improve the scientific impact of journals rooted in developing contexts.

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Conflict of interest

The authors declare that there is no conflict of interest.

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