













ORIGINAL

Metrics on Internal Medicine from the journal *Gaceta Médica Estudiantil*

Métricas sobre Medicina Interna de la revista *Gaceta Médica Estudiantil*

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ABSTRACT

Introduction: scientific research is a fundamental pillar in the advancement of Medicine, in such a way that from medical training it is necessary to acquire certain capacities through the implementation of research chairs and different favorable mechanisms towards the collective construction of knowledge. Bibliometrics statistically and quantitatively analyzes publications within a specific research field.

Objective: to characterize the articles on Internal Medicine topics published in the *Gaceta Médica Estudiantil* magazine in the period from 2020 to January 2023.

Methods: a bibliometric, observational, cross-sectional study was carried out. The universe was made up of 21 published scientific articles. The sampling technique was not used. The variables analyzed were: year of publication, type and topic of the article, career in medical sciences, origin of the author, number of authors, readings, downloads, and bibliographic references. Descriptive statistics, degree of collaboration and the Price index were applied.

Results: the year 2022 presented the highest number of articles published 11 (52,4 %) and the highest collaboration rate. Original articles prevailed 11 (52,4 %). Articles with 4 authors stood out. The female sex predominated among the authors (35, 51,5 %). The Guantánamo University of Medical Sciences stood out with the largest number of authors (22 authors, 32,4 %). 974 references were used, 715 of them under 5 years of age.

Conclusions: the importance of the bibliometric study lies in identifying the strengths and weaknesses of the *Gaceta Médica Estudiantil* journal, always with a constructive approach to increase its visibility and meet quality standards.

Keywords: Bibliometric Study; Internal Medicine; Scientific Communication.

RESUMEN

Introducción: la investigación científica es un pilar fundamental en el avance de la Medicina, de tal manera que desde la formación médica es necesario adquirir ciertas capacidades a través de la implementación de cátedras de investigación y distintos mecanismos favorables hacia la construcción colectiva del conocimiento. La bibliometría analiza estadística y cuantitativamente las publicaciones dentro de un campo de investigación específica.

Objetivo: caracterizar los artículos sobre temas de Medicina Interna publicados en la revista *Gaceta Médica Estudiantil* en el periodo de 2020 a enero de 2023.

Métodos: se realizó un estudio bibliométrico, observacional, de corte transversal. El universo se conformó por 21 artículos científicos publicados. No se empleó la técnica muestral. Las variables analizadas fueron: año de publicación, tipo y tema del artículo, carrera de las ciencias médicas, procedencia del autor, cantidad de autores, lecturas, descargas y las referencias bibliográficas. Se aplicó la estadística descriptiva, grado de colaboración y el índice de Price.

Resultados: el año 2022 presentó el mayor número de artículos publicados 11(52,4 %) y el mayor índice de colaboración. Predominaron los artículos originales 11(52,4 %). Destacaron los artículos con 4 autores. Predominó el sexo femenino entre los autores (35, 51,5 %). La Universidad de Ciencias Médicas de Guantánamo sobresalió con la mayor cantidad de autores (22 autores, 32,4 %). Se emplearon 974 referencias, de ellas 715 menores de 5 años.

Conclusiones: la importancia del estudio bibliométrico radica en identificar las fortalezas y debilidades de la revista Gaceta Médica Estudiantil siempre con un enfoque constructivo para aumentar su visibilidad y cumplir los estándares de calidad.

Palabras claves: Estudio Bibliométrico; Medicina Interna; Comunicación Científica.

INTRODUCTION

Scientific research is essential for the advancement of medicine. Therefore, medical training should include the acquisition of research skills through the implementation of research courses and other mechanisms that promote the collective construction of knowledge.⁽¹⁾

It is a determining factor in the comprehensive training of students that is reflected in the curricula of medical science careers, teaching, and healthcare practice.⁽²⁾

Since the creation of the Student Scientific Group in each higher education center, significant progress has been made in organizing and developing scientific events. The methodological quality of the presented works is considered superior compared to previous periods, although difficulties still persist, especially in mentoring, generalization, and publication.⁽²⁾

Student researchers primarily communicate through scientific journals, which serve as a public and official record of science since undergraduate studies. These journals also provide prestige and recognition to those associated with them.^(3,4)

Journals offer university students the opportunity to gain experience in formal publication processes. The time invested in reading a manuscript, the dedication required for review, editing, and subsequent publication, is invaluable for acquiring knowledge.⁽⁵⁾

Undoubtedly, the journal Gaceta Médica Estudiantil (GME) from the University of Medical Sciences of Guantánamo is a valuable tool for scientific communication. The editorial process has been strengthened by emphasizing bibliometric parameters and adhering to high publication standards.⁽⁶⁾

Bibliometrics involves statistical and quantitative analysis of publications within a specific research field, including their impact, using standardized indicators. These indicators are numerical data that relate to both the production and consumption of information.⁽⁷⁾

Internal Medicine focuses on the diagnosis and non-surgical treatment of diseases affecting the internal organs and systems of adults, as well as their prevention. Therefore, researching clinical topics is necessary as it is one of the most demanded specialties today.⁽⁸⁾ The objective of this research is to characterize articles on Internal Medicine topics published in the journal Gaceta Médica Estudiantil.

METHODS

A bibliometric, observational, descriptive, cross-sectional study was conducted from 2020 to January 2023. The universe consisted of 21 scientific articles published in the journal Gaceta Médica Estudiantil during the previously mentioned period. No sampling technique was applied as the entire universe was used. The articles published in the regular issues of the journal were included. Articles in any stage of the editorial process (pending assignment, revision or edition) were excluded. The articles were chosen based on the core focus of Internal Medicine: providing comprehensive patient care. As a result, any article that discusses clinical aspects was included in the study.

The analyzed variables were:

- Year of publication (2020, 2021, 2022, and 2023).
- Type of article (editorial, letter to the editor, original article, review article, case report, biographies, history and *in memoriam*).
- Medical science field (Medicine, Stomatology, Health Technologies).
- Article topic (editorial management, student scientific activity, health history).
- Medical specialties (General Surgery, Gynecology and Obstetrics, Internal Medicine, Intensive and Emergency Medicine, Natural and Traditional Medicine, Oncology and Pediatrics, therapeutic alternatives, and COVID-19).
- Author's origin (UCM Pinar del Río; UCM Havana; UCM Matanzas; UCM Cienfuegos; UCM Sancti Spiritus;

UCM Villa Clara; UCM Ciego de Ávila; UCM Holguín; UCM, Granma; UCM Las Tunas; UCM Santiago de Cuba; UCM Guantánamo and international universities).

- Number of readings (1, 20, 2000, etc.).
- Number of downloads (varies depending on the issue).
- Number of authors (one, two, three, four, five or more).
- Bibliographic references (number of references and references which are no older than five years from the article's publication date).
- Language of references.
- Number of corrected citations (NCC).

The information was collected until February 8, 2023, through the official website of the journal Each article was downloaded in PDF format for better analysis and data collection.

A database was created using Microsoft Excel 2010. The statistical processing involved the calculation of absolute and percentage frequencies (descriptive statistics). The data was then summarized in tables. Two types of bibliometric indexes were used: production and consumption.

The bibliometric consumption index is the one called Price Index. It measures relationship between references which are no older than five years from the article's publication date and the total number of references in the same article.

Cuban ethical standards for research in health sciences and the II Declaration of Helsinki were adhered to. The authors' identifying information was not used in the analyzed articles. The information was used for scientific purposes and to expand knowledge. Additionally, we obtained approval from the Ethics Committee and Scientific Council of the institution.

RESULTS

From 2020 to the first issue of 2023, a total of 21 articles were published. The year with the highest number of articles was 2022, with 11 (52,4 %). The lowest number of articles were published in 2021 and 2023 (Figure 1).

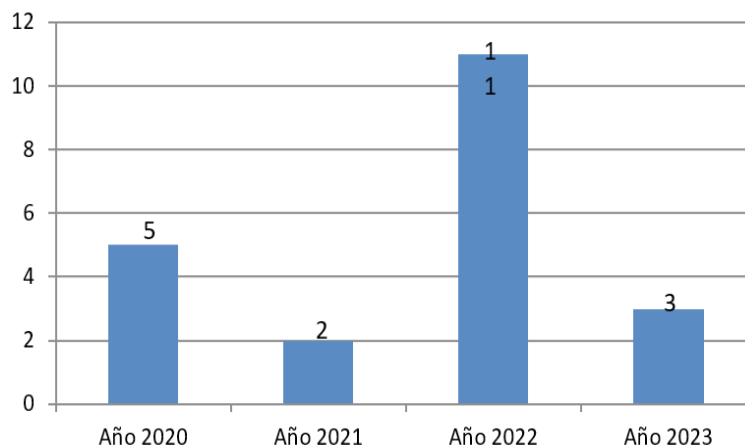


Figure 1. Number of articles published per year

Table 1 displays that original article (n = 11; 52,4 %) and review article (n = 5; 23,8 %) are the most prevalent.

Type	No.	%
Letters to the editor	1	4,76
Original article	11	52,4
Review article	5	23,8
Case report	4	19
Total	21	100

A total of 68 authors, primarily female (n=35; 51,5 %), were recorded. Table 2 shows that articles with 4 authors were the most common (n = 6; 28,6 %).

Table 2. Distribution of articles by number of authors

Number of authors	No.	%
1	5	23,8
2	1	4,76
3	4	19
4	6	28,6
5	5	23,8

A total of 974 references were used, largely consisting of original articles (n = 38) and review articles (n = 10). Table 3 shows that 715 references no older than five years from the article's publication date were used.

Table 3. Distribution of articles by article type and references

Article type	No.	%	References				Price Index
			No.	%*	≤ 5 years	%**	
Letters to the editor	7	11,5	41	4,21	37	5,17	0,05
Original article	38	62,3	612	62,8	444	62,1	0,62
Review article	10	16,4	241	24,7	183	25,6	0,26
Case report	6	9,84	80	8,21	51	7,13	0,07
Total	61		974		715		0,73

The articles were obtained from 10 institutions. The University of Medical Sciences of Guantánamo was the most productive, presenting 22 articles (32,4 %). The University of Medical Sciences of Havana followed with 10 articles, accounting for 14,7 % (refer to Table 4).

Table 4. Distribution of articles by institution productivity

Center	No= (21)	%
UCM Guantánamo	22	32,4
UCM Santiago de Cuba	1	1,47
UCM Granma	9	13,2
UCM Holguín	8	11,8
UCM Ciego de Ávila	4	5,88
UCM Cienfuegos	5	7,35
UCM Matanzas	5	7,35
UCM Artemisa	3	4,41
UCM La Habana	10	14,7
International Universities	1	1,47

Legend: UCM: University of Medical Sciences

DISCUSSION

Bibliometric studies are becoming increasingly valuable for the scientific community as they contribute to understanding the state of a research area or topic. It is recognized that scientific phenomena, trends, and standards can be determined through studies, which is of considerable value in evaluating and publishing results worldwide.

The bibliometric study of the Student Scientific Journal (April 16), the governing body of student science at the University of Medical Sciences of Havana, between January 2020 and December 2021, revealed that only 6,8 % of the articles were related to Internal Medicine. This result is lower than that presented in the current research.⁽¹⁰⁾

Publications related to this specialty are the most downloaded, read, and commented on due to their updates on disease diagnosis and treatment. They also provide clinical and epidemiological characterization of

diseases that are often overlooked and should be considered for differential diagnoses.⁽¹¹⁾

Based on a bibliometric analysis conducted by Iza Stoll *et al.*⁽¹²⁾ in the journal *Acta Médica Peruana* the years with the highest publication of articles on Internal Medicine were 1985, 2021, and 2017. Although the last two years mentioned are close to the year with the highest results in the present study, this demonstrates people's interest in learning and exploring this specialty. This allows for sharing knowledge and insights that are not widely known in the scientific community.

In terms of typology, the findings differ from those of Ramos Cordero and other experts^(13, 18), who reported a higher percentage of literature reviews (48,78 %) followed by original articles (43,9 %) in the RCE Universidad Médica Pinareña. The publishing house for Medical Sciences, to which this journal belongs, requires that each issue contain 60 % or more original studies. This is because scientific articles are the primary means of sharing new knowledge, making them the most powerful and solid contributions in a biomedical journal. Nevertheless, the authors agree that topics related to scientific publication and research methodology should be further developed in settings such as scientific evenings and pre-event courses to stimulate interest and motivation for research and publication.⁽¹⁴⁾

The significant involvement of the “Frank País García” Student Assistants Movement, the integration of professors at the Teaching General Hospital in teaching and research, and the healthcare practice all contribute to the publication of clinical medicine articles. This supports the findings of Smith Grova and Pinera Castro in their scientific article on Higher Medical Education.⁽¹⁵⁾

Multiple authorship is a common characteristic found in the literature reviewed. The published article reflects the key aspects of conducting research with a group of authors: responsibility, seriousness of work, and ethics. The authors should have contributed significantly to the conceptualization, analysis, methodology, validation, writing, and review process. These arguments are consistent with those presented by Sancho, Rosa, *et al.*^(16,19,20,21)

Valentina Lafuente⁽¹⁷⁾ suggests that scientific production is more valuable and interesting when using up-to-date bibliographic references. Therefore, it is important to analyze the Price index, one of the most studied indicators that emphasizes the importance of consulting bibliographies from the last five years of the study. This positively affects a greater number of articles downloaded for later reading and analysis.

CONCLUSIONS

The present study provides a comprehensive overview of scientific activity by characterizing the articles on Internal Medicine topics published in the journal *Gaceta Médica Estudiantil* from 2020 to January 2023. Data clearly indicates a substantial rise in the number of published articles during 2022. The scientific production was led by the University of Medical Sciences of Guantánamo, with a prevalence of original articles. According to the evidence, scientific production among Internal Medicine students was low.

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