

Application of Advanced Didactic Methods for General Medicine Training: A Comprehensive Educational Approach

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ABSTRACT

A documentary review was carried out on the production and publication of research works related to the study of the variable DIDACTIC METHODS, EDUCATION, and GENERAL MEDICINE. The purpose of the bibliometric analysis proposed in this document was to know the main characteristics of the volume of publications registered in the Scopus database during the period 2017-2022, achieving the identification of 35 publications. The information provided by this platform was organized through graphs and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics have been described, the position of different authors regarding the proposed theme is referenced through a qualitative analysis. Among the main findings made through this research, it is found that Cuba, with 13 publications, was the Latin American country with the highest scientific production registered in the name of authors affiliated with institutions in that nation. The Area of Knowledge that made the greatest contribution to the construction of bibliographic material regarding the study of the different didactic methodologies for teaching in the area of general medicine was Medicine with 25 published documents, and the most used Type of Publication during the period indicated above were Journal Articles with 100% of the total scientific production.

Keywords: Didactic Methods, Education, Integral Education, General Medicine.

1. INTRODUCTION

In the ever-evolving landscape of medical science and healthcare, the education of future medical professionals has taken center stage. The growing demand for healthcare services requires a new generation of doctors and professionals who are not only equipped with the latest knowledge, but also trained to apply it to real-life situations. The integration of advanced pedagogical methods in medical education has been a transformative approach to meeting these needs. This paradigm shift from traditional teaching methods to innovative and interactive approaches has not only revolutionized medical education, but has also paved the way for a more comprehensive and holistic approach to learning. Gone are the days when medical education consisted mostly of lectures and random learning.

The emergence of improved teaching methods, facilitated by the most advanced technology and a better understanding of the cognitive learning process, has brought medical education into a new era. This shift is characterized by the adoption of a wide range of technologies, including problem-based learning, simulation-based instruction, virtual reality applications, flipped classrooms, and collaborative learning environments. These approaches not only enhance the acquisition of medical knowledge, but also develop the critical thinking, decision-making, teamwork, and effective communication skills that are critical to success in the dynamic field of nursing.

Interactive simulations, virtual patient encounters, and game modules engage students in a way that traditional lectures cannot. The democratization of online resources and knowledge gained on digital platforms ensures that medical students can explore topics at their own pace, increasing their autonomy and self-learning capabilities. In this changing environment, educators and institutions have a key role to play in selecting and delivering content that aligns with progressive educational principles.

It is essential to train teachers to use technology effectively, create interactive lessons, and foster a culture of continuous improvement. As the era of personalized medicine and patient-centered care approaches, medical education must also integrate empathy, cultural competence, and ethical considerations, which is most easily achieved through advanced teaching methods. In conclusion, the use of advanced teaching methods in medical education ushers in a new era of holistic learning. By combining technology, this transition marks a step toward developing well-rounded medical professionals who are ready to excel in the complex and ever-changing world of healthcare. For this reason, this article seeks to describe the main characteristics of the compendium of publications indexed in the Scopus database related to the variables DIDACTIC METHODS, EDUCATION, and GENERAL MEDICINE, as well. Such as the description of the position of certain authors affiliated with Latin American institutions, during the period between 2017 and 2022.

2. GENERAL OBJECTIVE

To analyze, from a bibliometric and bibliographic perspective, the preparation and publication of research papers in high-impact journals indexed in the Scopus database on the variables Didactic Methods, Education, General Medicine during the period 2017-2022 by Latin American institutions.

3. METHODOLOGY

This article is carried out through a mixed orientation research that combines the quantitative and qualitative method.

On the one hand, a quantitative analysis of the information selected in Scopus is carried out under a bibliometric approach of the scientific production corresponding to the study DIDACTIC METHODS, EDUCATION, GENERAL MEDICINE. On the other hand, examples of some research works published in the area of study indicated above are analyzed from a qualitative perspective, based on a bibliographic approach that allows describing the position of different authors regarding the proposed topic. It is important to note that the entire search was carried out through Scopus, managing to establish the parameters referenced in *Figure 1*.

3.1. Methodological design

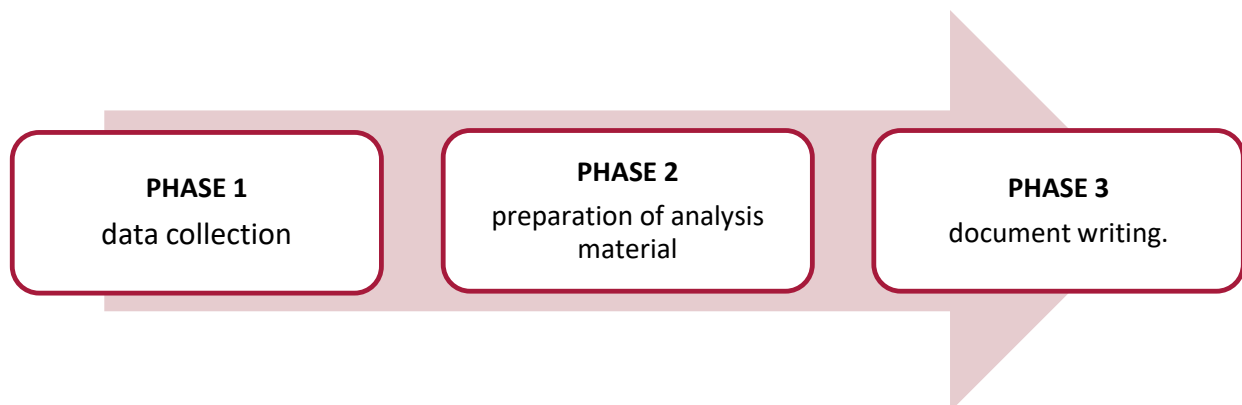


Figure 1. Methodological design

Source: Authors.

3.1.1 Phase 1: Data Gathering

Data collection was carried out from the Search tool on the Scopus website, where 35 publications were obtained from the choice of the following filters:

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- Published documents whose study variables are related to the study of the variables DIDACTIC METHODS, EDUCATION, GENERAL MEDICINE.
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3.1.2 Phase 2: Construction of analysis material

The information collected in Scopus during the previous phase is organized and then classified by graphs, figures and tables as follows:

- Co-occurrence of words.
- Country of origin of the publication.
- Area of knowledge.
- Type of publication.

3.1.3 Phase 3: Drafting of the conclusions and final document

In this phase, the analysis of the results previously yielded is carried out, resulting in the determination of conclusions and, consequently, the obtaining of the final document.

4. RESULTS

4.1 Word co-occurrence

Figure 2 shows the co-occurrence of keywords found in the publications identified in the Scopus database.

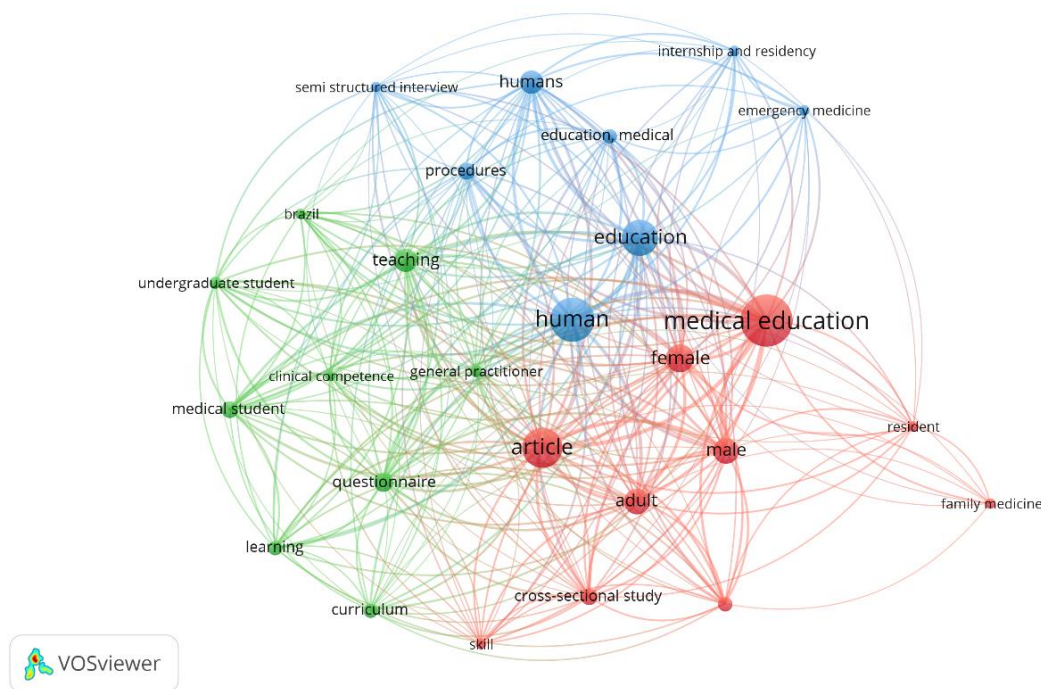


Figure 2. Word co-occurrence

Source: Own elaboration (2023); based on data exported from Scopus.

Medical education was the most frequently used keyword within the studies identified through the execution of Phase 1 of the Methodological Design proposed for the development of this article. Teacher is also among the most frequently used variables, associated with variables such as Procedures, Residents, Medical Students, General Practice, Semi-Structured

Interview. From the above, advanced teaching methods play a vital role in providing excellent medical education with a holistic approach. The medical field is constantly evolving, and educators must adapt their teaching strategies to ensure that medical students receive the best education possible. Methods such as active learning techniques, interdisciplinary training, integrated practice, research integration. By integrating these advanced teaching methods, medical educators can create a comprehensive and dynamic learning environment that prepares students for success in the rapidly changing healthcare environment. It is important to constantly evaluate and adapt these methods based on feedback, outcomes, and the changing needs of both students and patients.

4.2 Distribution of scientific production by year of publication

Figure 3 shows how scientific production is distributed according to the year of publication.

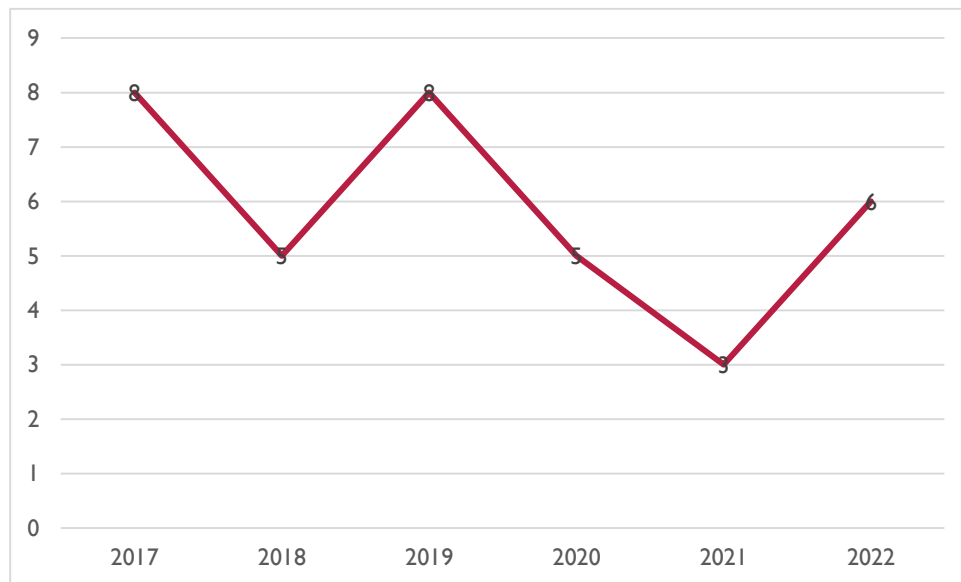


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Among the main characteristics evidenced by the distribution of scientific production by year of publication, a level of number of publications registered in Scopus was the years 2017-2019, reaching a total of 8 documents published in journals indexed on said platform. This can be explained thanks to articles such as the one entitled "The role of the modern surgeon as leader of health care teams: a narrative review of a ubiquitous, but poorly defined" faculty. The objective is to describe the role of leadership in the training of the general surgeon and to point out its relevance. Method: A search of the medical literature was conducted to identify studies that reported on topics related to leadership in the context of medical education and surgery. We used the Medline/PubMed database search engine including related terms such as "leadership" and "medicine" or "surgery". Results: Leadership is a valued characteristic in surgery, it implies professionalism, technical competence, motivation, innovation, teamwork, communication skills, decision-making, emotional competence, resilience and effective teaching. Leadership is measurable and can be developed through experience, observation, and education. Conclusions: Priority should be given to actions that improve the leader's traits. This has been shown to create a working environment where efficient work is done and failures are minimized. The current vision of the leader must be broadened to reduce the gender gap between the positions held by the leader at the moment. (Rojas-Gutiérrez, 2022)

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Figure 4 shows how scientific production is distributed according to the nationality of the authors.



Figure 4. Distribution of scientific production by country of origin.

Source: Own elaboration (2023); based on data provided by Scopus.

Within the distribution of scientific production by country of origin, records from institutions were taken into account, establishing Cuba as the country of that community, with the highest number of publications indexed in Scopus during the period 2017-2022, with a total of 13 publications in total. In second place, Brazil with 7 scientific documents, and Mexico occupying the third place presenting to the scientific community, with a total of 5 documents among which is the article entitled "Impact of the Diploma in Medical Education on the teaching performance of the specialist in Comprehensive General Medicine" this article aims to assess the impact on the postgraduate medical education career of a contribution to the teaching training of the specialist in comprehensive general medicine from the Miguel Enríquez School of Medicine. Methods: A descriptive study was carried out with a professor of medical education specializing in comprehensive general medicine who graduated from the medical education career in a review relationship, using theoretical methods, to apply an inquiry in the 30 graduates of the Miguel Enríquez School of Medicine. Results: Assistant professor (33.3%), associate professor (43.3%) and full professor 3.3% postgraduate (20.0%) master's degree in science and (3.3%) PhD were successful in the teaching category, the policy and ideology, the methodology and the educational teaching performance were of a high level. Conclusions: medical training specialized in comprehensive general medicine allowed a higher level of professional and teaching improvement in graduates in the teaching, academic, and political teaching, educational, methodological and ideological processes.(Borras, 2022)

4.4 Distribution of scientific production by area of knowledge

Figure 5 shows the distribution of the preparation of scientific publications based on the area of knowledge through which the different research methodologies are implemented.

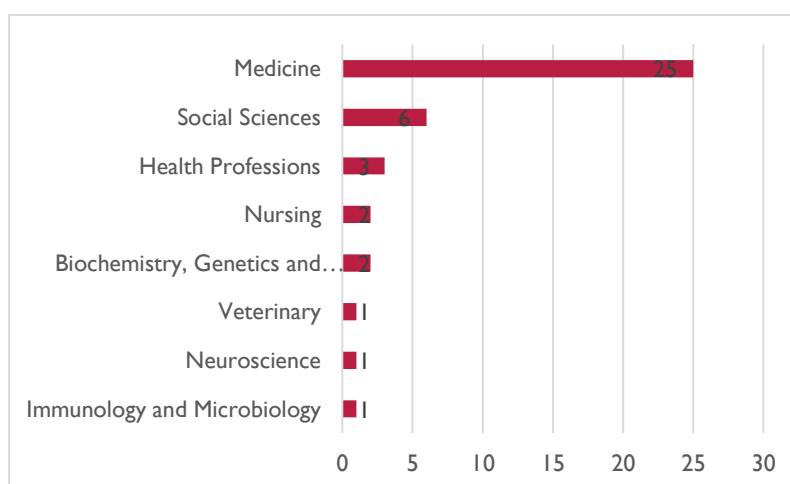


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Medicine was the area of knowledge with the highest number of publications registered in Scopus with a total of 25 documents that have based their methodologies on the variables DIDACTIC METHODS, EDUCATION, and GENERAL MEDICINE. In second place, Social Sciences with 6 articles and Health Professions in third place with 3. The above can be explained thanks to the contribution and study of different branches, the article with the greatest impact was registered by the area of Medicine entitled "E-Learning and impact on the teaching and evaluation of human anatomy during COVID 19: a review of the quality of the literature" The purpose of this review was to identify studies that explore e-learning technologies and their impact on the teaching and assessment process of Human Anatomy, and evaluate the quality of published research. A systematic review of the literature was carried out in the databases Pudmed (Medline), Ovid (Cochrane Central), Ovid (Medline), Scopus, Web of science (clarivate) and Science Direct, including the keywords: Examination, Teaching, COVID. -19 Medical Education, COVID-19, Medical Student Exams, Anatomy, Students, Medicine. The quality of the research was assessed using the Medical Education Research Study Quality (MERSQI) instrument. A total of 202 research articles were found, and when applying the inclusion and exclusion criteria, a total of 24 articles were identified; After reading the articles, four studies that met the synthesis criteria of this review were chosen. In general, the results showed a favorable impact of e-learning technologies since they facilitated access, flexibility and learning pace for each student, as well as promoted new forms of teaching and evaluation in the discipline of Human Anatomy in medical students. during the Covid-19 pandemic. Thus, medical education for the basic sciences of human anatomy indicates a transition from face-to-face and virtual blended learning to a blended learning (b-learning) model.(García, 2022)

4.5 Type of publication

In the following graph, you will see the distribution of the bibliographic find according to the type of publication made by each of the authors found in Scopus.

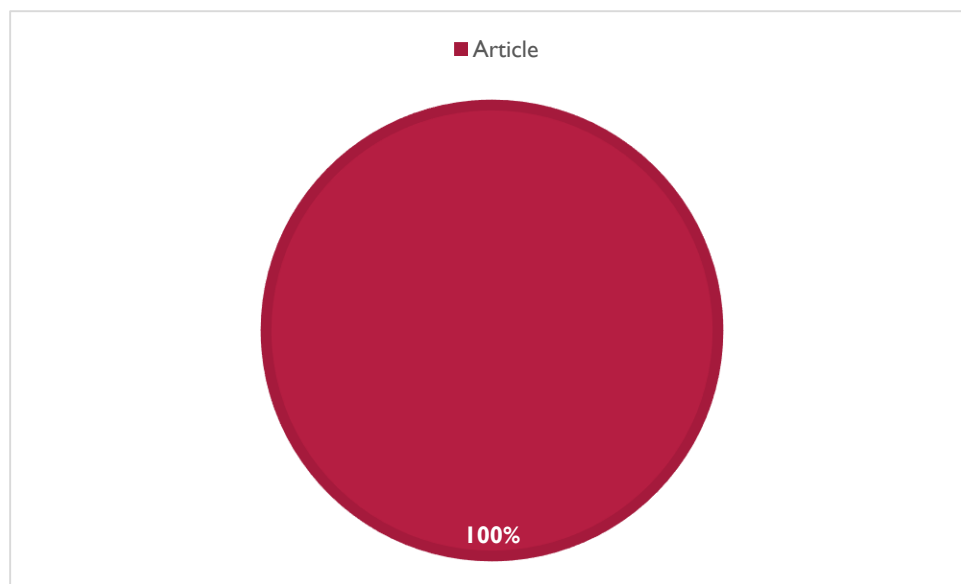


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The type of publication most frequently used by the researchers referenced in the body of this document was entitled Journal Articles with 100% of the research papers published during the period 2017-2022 in journals indexed in Scopus. In this last category, the one entitled "Teaching Rheumatology in the undergraduate career: is it enough?" stands out. Its scope of study describes the perception and confidence that general practitioners have about the rheumatology training received at the undergraduate level. Materials and methods: Cross-sectional observational study, using a Likert-type survey tool. The study included general practitioners who graduated from the Colombian medical school between 2009 and 2019. The variables studied were those related to the curriculum, the knowledge or skills acquired, and the mastery of the contents in rheumatology compared to practice. Subjects who attended a specialist or who had an employment relationship with a specialized rheumatology center were excluded. Results and conclusions: A total of 102 physicians were surveyed and 86 completed questionnaires were included in the final analysis. Of these, 83.4% were graduates of private universities. More than two-thirds (37%9) had a formal subject in rheumatology, 16% received training with specific strategies, 54% expressed confidence in performing the physical examination of MS, and 47% were confident in the diagnostic approach and prescription of the disease. Modifying drugs. To strengthen the training in rheumatology required by the undergraduate

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5. CONCLUSIONS

Through the bibliometric analysis carried out in this research work, it was possible to establish that Cuba was the country that has the largest number of records published in the face of the variables DIDACTIC METHODS, EDUCATION, and GENERAL MEDICINE. with a total of 13 publications in the Scopus database. In the same way, it was possible to establish that the application of theories framed in the area of Medicine, the implementation of better teaching methods is crucial to achieve an excellent medical education with a holistic approach. The integration of innovative techniques and technologies in medical education enhances learning and equips future healthcare professionals with the skills, knowledge, and mindset needed to cope with a complex healthcare environment. Advanced teaching methods, such as problem-based learning, simulation-based education, flipped classrooms, and interdisciplinary collaboration, encourage active participation and critical thinking among medical students. These methods encourage students to analyze real cases, collaborate with peers from different disciplines, and apply theoretical knowledge to practical situations. As a result, students develop a deeper understanding of medical concepts and can adapt their skills to a variety of clinical settings. In addition, the use of technologies such as virtual reality simulations, augmented reality, and online resources expand the reach of medical education beyond traditional classrooms. These tools provide an immersive experience that allows students to practice procedures, diagnose diseases, and interact with patients virtually, bridging the gap between theory and practice. Advanced teaching methods allow teachers to effectively address these issues. Role-playing, standardized patient encounters, and professional training opportunities foster the interpersonal and ethical dimensions of medicine. The incorporation of advanced learning methods also adapts to the changing healthcare environment, which requires adaptability and lifelong learning on the part of healthcare professionals. By experiencing a variety of teaching methods during training, medical students are better able to continuously improve their knowledge and skills throughout their careers.

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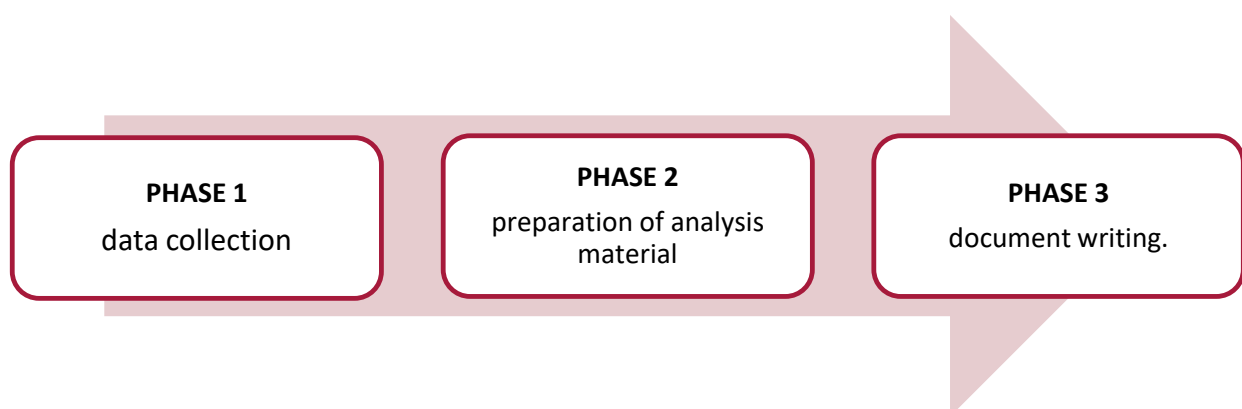


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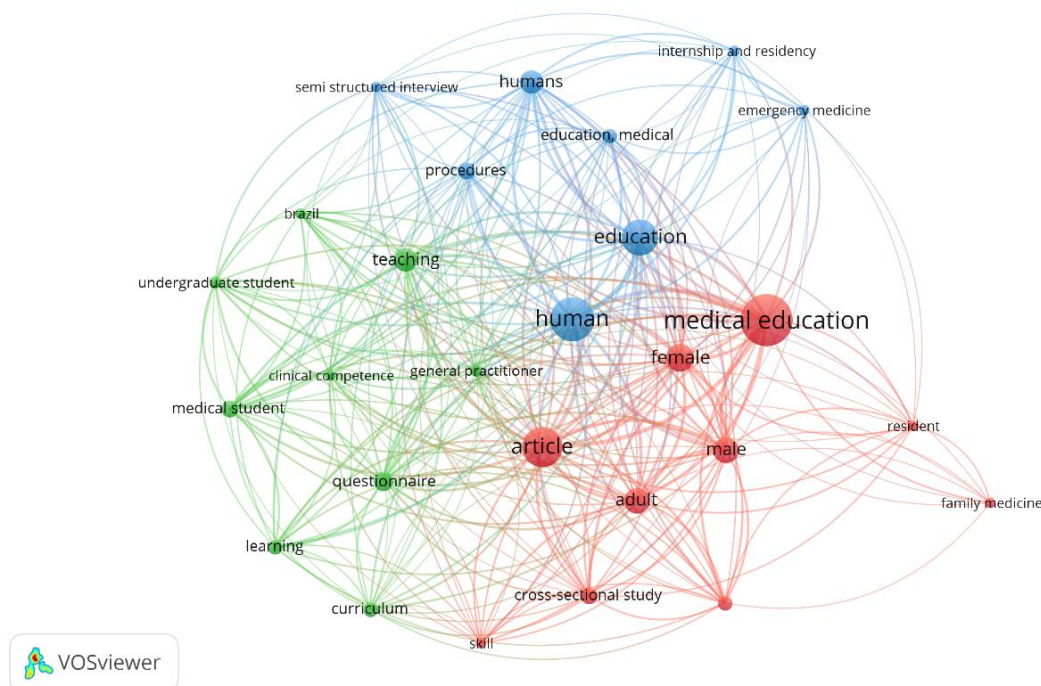


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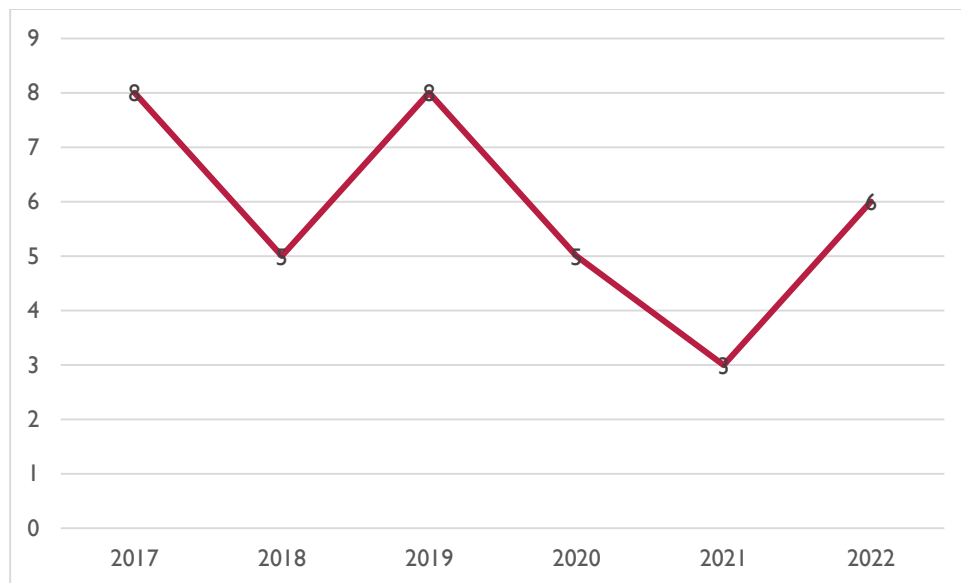


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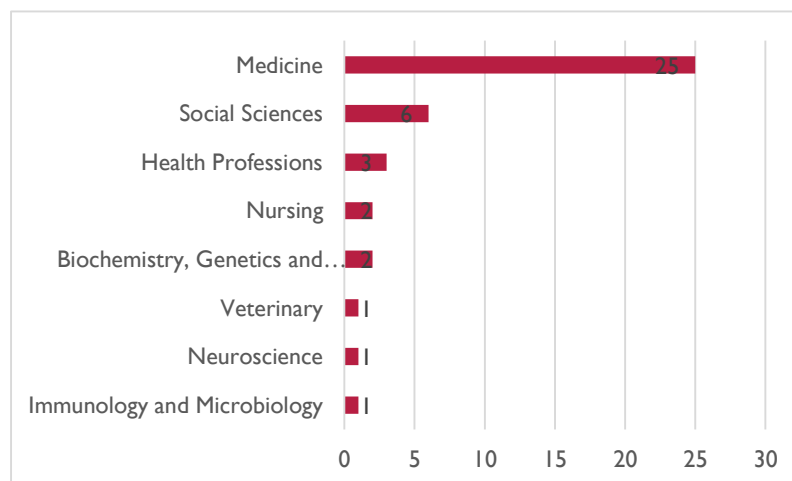


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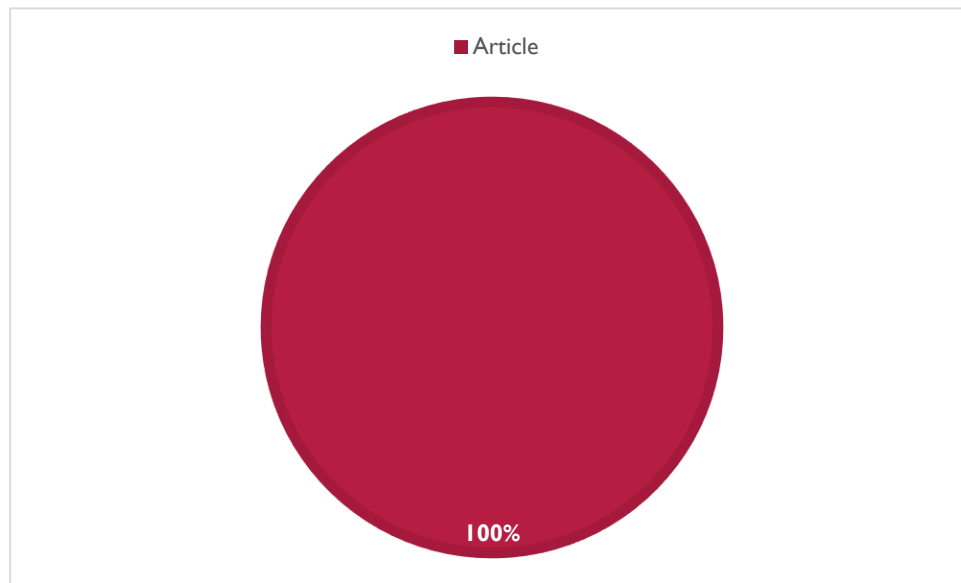


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