

LETTER TO THE EDITOR

[Translated article] What is the validity of a curve of recent publications in PubMed as an argument that we are facing a current topic?



¿Cuál es la validez de una curva reciente de publicaciones en PubMed como argumento de que estamos ante un tema en auge?

The use of evolutionary graphs of PubMed publications in recent years on a topic of interest is a common sight in many session presentations, courses, and conferences in our field. This graph is often used to identify a topic as “trendy,” “on the rise,” or “of increasing interest.” It is atypical to display this graph with a flat or downward curve. The purpose

of this letter is to question the use of this type of graph and provide a critical perspective on its interpretation.

The publication of articles in electronic databases has grown exponentially in recent years,¹ primarily due to the introduction of new journals and electronic supplements to existing journals.

To analyse this situation, a PubMed search was conducted on November 16, 2023, for four MeSH terms representative of our specialty: “Fracture,” “Orthopaedics,” “Traumatology,” and “Bone.” Searches were conducted for different years (Table 1), and a graphical representation and calculation of variability between different time points were performed (Fig. 1).

The number of publications in our field has increased sixfold (644%) over the last 20 years, with an almost exponential upward trend. The average annual increase in the number of publications is 30%, reaching up to 100% in the last five years.

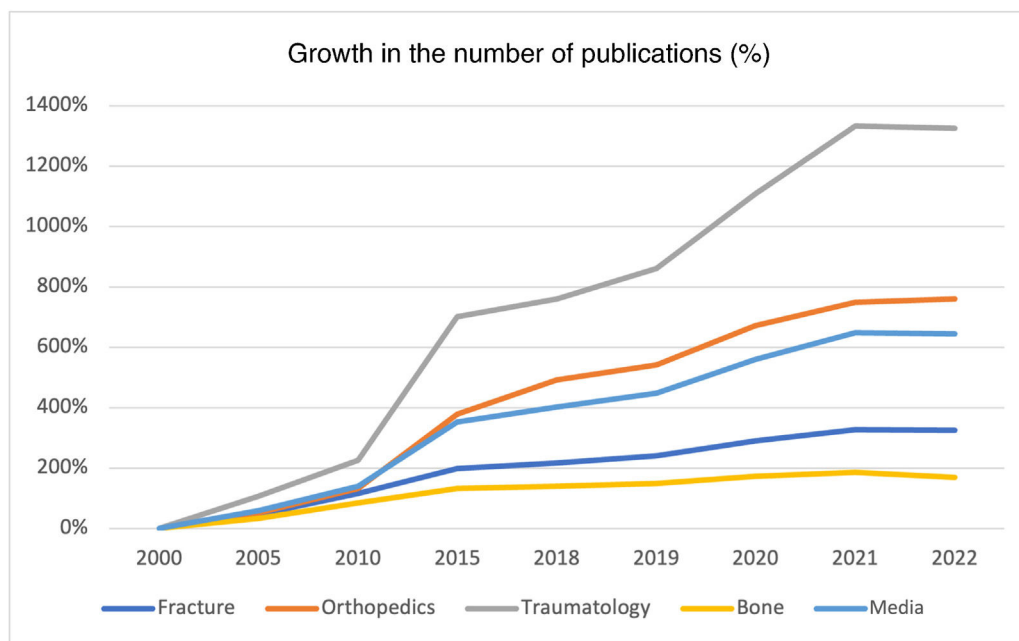


Figure 1 Graph of the percentage of publications in PubMed for each of the terms compared to the initial year.

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Table 1 Absolute annual number of publications in PubMed for each term and its percentage growth compared to the year 2000.

	Year								
	2000	2005	2010	2015	2018	2019	2020	2021	2022
<i>Fracture</i>									
No. of publications	4.911	7.153	10.583	14.644	15.508	16.676	19.135	20.967	20.826
% growth		+46%	+115%	+198%	+216%	+240%	+290%	+327%	+324%
<i>Orthopaedics</i>									
No. of publications	5.938	8.956	13.800	28.374	35.188	38.094	45.856	50.386	51.070
% growth		+51%	+132%	+378%	+493%	+542%	+672%	+749%	+760%
<i>Traumatology</i>									
No. of publications	409	841	1.336	3.275	3.514	3.927	4.939	5.860	5.831
% growth		106%	227%	701%	759%	860%	1108%	1333%	1326%
<i>Bone</i>									
No. of publications	23.887	31.945	43.985	55.297	57.073	59.290	64.917	68.375	64.063
% growth		34%	84%	131%	139%	148%	172%	186%	168%
<i>Media</i>	0%	59%	140%	352%	402%	447%	560%	649%	644%

In this context, any PubMed publication curve with a positive slope, despite representing an increase in the absolute number of publications, could represent a topic that is not in vogue compared to the rest, or even a topic with decreasing interest. For this reason, interpretation of this type of data should be performed with caution, evaluating the numbers in relation to the total number of articles published at the time of the analysis.

Level of evidence

Level of evidence V.

Ethical considerations

There is no animal, human, or patient data in this work. Approval by an ethics committee is not required, provided a letter to the editor is submitted.

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Conflict of interests

The authors declare no conflicts of interest for the preparation of this article.

Reference

1. Bornmann L, Mutz R. Growth rates of modern science: a bibliometric analysis based on the number of publications and cited references. *J Assn Inf Sci Tec.* 2015;66:2215–22.

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