How recent is recent? Retrospective analysis of suspiciously timeless citations

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ABSTRACT

OBJECTIVE

To quantify the time lag between biomedical articles and the studies they describe as "recent," a term widely used to imply timeliness despite rarely reflecting the actual age of the cited evidence.

DESIGN

Retrospective analysis of suspiciously timeless citations based on a structured PubMed search of 20 predefined "recent" expressions.

SAMPLE

1000 English language, full text biomedical articles in which a "recent" expression is directly linked to a citation.

MAIN OUTCOME MEASURE

Time lag in years between citing articles and their referenced "recent" studies.

RESULTS

The age of the cited "recent" studies varied widely. The citation lag ranged from 0 to 37 years (mean 5.53 years, median 4 years, interquartile range 2-7). The most frequent lag was one year (n=159, 15.9%), and 177 references (17.7%) were at least 10 years old. Citation patterns varied across medical specialties: critical care, infectious diseases, genetics, immunology, and radiology showed shorter median lags (around two years), while nephrology, veterinary medicine, and dentistry displayed substantially longer lags (ranging from 8.5 to 14 years). Among expressions, "recent approach," "recent discovery," and "recent study" were linked to older references, whereas "recent publication" and "recent article" had much fresher citations. The citation lag was similar across world regions and gradually decreased over time, with the most recent publications showing the shortest lags. Journals with high impact factors (≥12) cited more up-to-date work.

CONCLUSIONS

This playful analysis suggests that "recent" is applied with striking elasticity across biomedical literature. While some authors cite genuinely recent work, others stretch the definition to decades. Readers and reviewers should take "recent" claims with a grain of chronological salt.

WHAT IS ALREADY KNOWN ON THIS TOPIC

Authors in biomedical journals frequently describe cited evidence as "recent," although the actual age of the references behind these phrases has rarely been quantified

Readers, reviewers, and editors often assume that "recent" corresponds to genuinely up-to-date studies, but systematic analyses are needed to assess how close to article publication these references usually are

WHAT THIS STUDY ADDS

In 1000 biomedical articles, "recent" corresponded to a median citation lag of four years, with almost one in five "recent" references being at least 10 years older than the citing article

Citation patterns varied widely across specialties and "recent" expressions, indicating that the term often acts as a flexible rhetorical device rather than a reliable marker of truly current evidence

Introduction

According to the *Oxford English Dictionary*, the word recent is defined as "having happened or started only a short time ago."[1] A simple, innocent sounding definition. And yet, in the world of scientific publishing, it may be one of the most elastic terms ever used. What exactly qualifies as "a short time ago"? A few months? A couple of years? The advent of the antibiotic era?

In biomedical literature, "recent" is something of a linguistic chameleon. It appears everywhere: in recent studies, recent evidence, recent trials, recent literature, and so forth. It is a word that conveys urgency and relevance, while neatly sidestepping any commitment to a specific year—much like saying "I'll call you soon" after a first date: reassuring, yet infinitely interpretable. Authors wield it with confidence, often citing research that could have been published in the previous season or the previous century.

Despite its ubiquity, "recent" remains a suspiciously vague descriptor. Readers are expected to blindly trust the author's sense of time. But what happens if we dare to ask the obvious question? What if we take "recent" literally?

In this festive horological investigation, we decided to find out just how recent the recent studies really are. Armed with curiosity, a calendar, and a healthy disregard for academic solemnity, we set out to measure the actual age of those so-called fresh references. The results may not change the course of science, but they might make you raise an eyebrow the next time someone cites a recent paper from the past decade.

Methods

On 5 June 2025, we—that is, the junior author, while the senior author remained in supervisory orbit—performed a structured search in PubMed using the following terms: "recent advance*" or "recent analysis" or "recent article*" or "recent data" or "recent development" or "recent evidence" or "recent finding*" or "recent insights" or "recent investigation*" or "recent literature" or "recent paper*" or "recent progress" or "recent report*" or "recent research" or "recent result*" or "recent review*" or "recent study" or "recent studies" or "recent trial*," or "recent work*." These terms were selected on the basis that they appear frequently in the biomedical literature, convey an aura of immediacy, and are ideal for concealing the fact that

the authors are citing papers from before the invention of UpToDate.

To avoid skewing the results towards only the freshest of publications (and therefore ruining the fun), we sorted the search results by best match rather than by date. This method added a touch of algorithmic chaos and ensured a more diverse selection of articles. We then included articles progressively until reaching a sample size of 1000, a number both sufficiently round and statistically unnecessary, but pleasing to the eye.

We—again, the junior author, while the senior author offered moral support and the occasional pat on the back—reviewed the full text of each article to identify expressions involving the word "recent," ensuring they were directly linked to a bibliographic reference. Acceptable links included citations placed immediately after the expression, within the same sentence, or in uncomfortably close proximity. Articles were excluded if the full text was not accessible through institutional subscriptions, professional networking, or morally ambiguous tactics. We also excluded publications written in languages other than English—ironically discarding potentially rich material in Spanish, even though both authors are native Spanish speakers and fully aware of just how vague "reciente" can be. Instances where the "recent" expression was metaphorical, ambiguous, or lacked a clearly attributable citation were also discarded. Naturally, all assessments were conducted with the utmost rigour—and with the distinctly Mediterranean flexibility that comes from both authors being Spaniards.

For every eligible publication, we—still the junior author, whose dedication was inversely proportional to his contract stability—manually recorded the following: the doi of the article, its title, the journal of publication, the year it was published, the country where the article's first author was based, the broad medical specialty to which the article belonged, the exact "recent" expression used, the reference cited immediately after that expression, the year in which that reference was published, and the journal's impact factor as of 2024 (as reported in the *Journal Citation Reports*, Clarivate Analytics). The latest impact factor was used for consistency across all journals, avoiding the confounding effects of annual fluctuations and allowing comparisons between articles published in different years.

When more than one eligible "recent" expression appeared within an article, only the first valid instance was included in the analysis. Similarly, if that expression cited several references, we recorded only the first cited reference. For the purposes of classification and analysis, singular and plural versions of the same expression (such as "recent study" and "recent studies") were grouped together.

We—once more, the junior author, this time armed with coffee and existential doubt—performed descriptive statistical analyses to explore the characteristics of both citing and cited publications. Measures of central tendency and dispersion—including median (interquartile range) and most frequent citation lag—were calculated to summarise the time lag. Analyses were performed using R (version 4.1.2, R Core Team, 2021).

Patient and public involvement

Patients and the public were not involved in the design, conduct, reporting, or dissemination of this research.

Results

The final analysis comprised 1000 articles. The time lag between the citing article and the referenced "recent" publication ranged from 0 to 37 years, with a mean of 5.53 years (standard deviation 5.29) and a median of 4 years (interquartile range 2-7). The most frequent citation lag was one year, which was observed for 159 publications. The distribution was right skewed (skewness=1.80), with high kurtosis (4.09), indicating a concentration of values around the lower end with a long tail of much older references. A total of 177 articles had a citation lag of 10 years or longer, 26 articles had a lag of 20 years or longer, and four articles cited references that were at least 30 years old. The maximum lag observed was 37 years, found in one particularly ambitious case. Figure 1 shows the shape and dispersion of this distribution.

When stratified by medical specialty, the citation lag displayed variability. Most disciplines clustered around a median of four years, but several fields clearly deviated from this pattern. Critical care, infectious diseases, genetics, immunology, and radiology showed the shortest citation lags, all with median values of up to two years, suggesting a tendency to reference more contemporary work. By contrast, nephrology, veterinary medicine, and dentistry showed much longer median lags—ranging from 8.5 to 14 years—reflecting a broader temporal interpretation of recency in these fields. Table 1 presents detailed results by specialty.

Analysis by type of expression revealed that the most frequently used terms were recent study (n=280, 28.0%), recent report (n=83, 8.3%), recent review

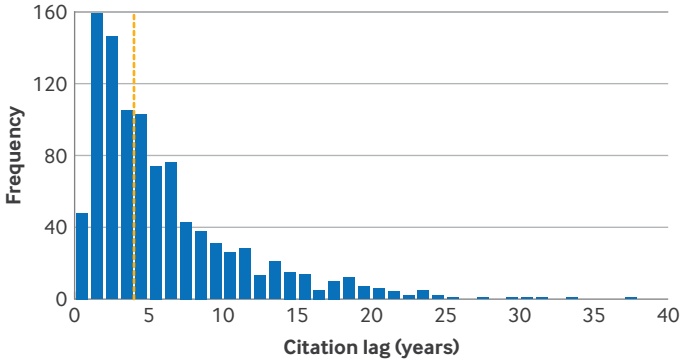

Fig 1 | Distribution of citation lag between "recent" expressions in biomedical articles and publication year of cited reference. Each bar represents a one year interval. Most citations cluster within 0-10 years, with a sharp right skew reflecting occasional references several decades old. Dashed vertical line indicates median citation lag (four years)

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Table 1 | Citation lag (years) by medical specialty

Medical specialty	No of articles (%)	Median citation lag (IQR)	Most frequent citation lag*
Global sample	1000 (100)	4 (2-7)	1 (159)
Critical care	6 (0.6)	1.5 (1-4.25)	1 (2)
Infectious diseases	42 (4.2)	2 (1-4)	1 (11)
Genetics	21 (2.1)	2 (1-4)	1 (8)
Immunology	21 (2.1)	2 (1-5)	1 (6)
Radiology	6 (0.6)	2 (1-12)	1 (2)
Pulmonology	22 (2.2)	2.5 (1-3)	1 (9)
Dermatology	8 (0.8)	2.5 (0.75-4)	4 (3)
Public health	89 (8.9)	3 (2-6)	2 (16)
Cardiology	59 (5.9)	3 (2-6)	2 (13)
Microbiology	23 (2.3)	3 (1.5-8.5)	1 (4)
Haematology	19 (1.9)	3 (2-6.5)	2 (7)
Urology	7 (0.7)	3 (2.5-5.5)	3 (2)
Palliative care	5 (0.5)	3 (1-3)	3 (2)
Medical humanities	6 (0.6)	3.5 (2-7.25)	2 (2)
Oncology	125 (12.5)	4 (1-7)	1 (20)
Neurology	116 (11.6)	4 (2-8)	2 (21)
Mental health	60 (6.0)	4 (2-9)	1 (9)
Endocrinology	50 (5.0)	4 (2-6)	1 (9)
Gastroenterology	37 (3.7)	4 (3-7)	2 (8)
Pharmacology	22 (2.2)	4 (2-7.5)	2 (5)
Rheumatology	18 (1.8)	4 (1.25-5.75)	4 (4)
Ophthalmology	17 (1.7)	4 (3-7)	3 (3)
General surgery	9 (0.9)	4 (3-6)	3 (3)
Medical informatics	7 (0.7)	4 (1-6)	1 (2)
Environmental science	6 (0.6)	4 (4-4)	4 (4)
Otolaryngology	5 (0.5)	4 (2-8)	—
Obstetrics and gynaecology	16 (1.6)	4.5 (2.75-6.5)	5 (3)
Biomedical engineering	14 (1.4)	4.5 (2.25-5)	5 (4)
Anaesthesiology	10 (1.0)	4.5 (3-6.5)	2 (2)
Biology	40 (4.0)	5 (2-9)	2 (6)
Neurosurgery	6 (0.6)	5 (1.25-16.25)	1 (2)
Orthopaedics	36 (3.6)	6 (1.75-9)	1 (8)
Chemistry	5 (0.5)	6 (1.75-9)	—
Paediatrics	24 (2.4)	6.5 (3.75-12.75)	2 (4)
Nephrology	12 (1.2)	8.5 (3.75-10.5)	1 (2)
Veterinary medicine	7 (0.7)	9 (7-17)	17 (2)
Dentistry	5 (0.5)	14 (5-17)	—

IQR=interquartile range.
Rows are sorted in ascending order based on median lag value. For equal medians, specialties with larger sample sizes appear first. Specialties with fewer than five observations were excluded.
*Citation lag in years (No of occurrences).

(n=61, 6.1%), and recent evidence (n=58, 5.8%). Although most expressions showed citation lags comparable to the overall sample, several diverged markedly. Recent publication, recent article, recent trial, recent guidelines, recent paper, and recent result showed the shortest lags, all with medians of two years or less, suggesting that these tend to reference genuinely up-to-date work. By contrast, recent study, recent research, recent literature, recent investigation, and recent discovery were linked to much older references, with median lags between five and seven years, implying a more relaxed sense of temporal proximity. Table 2 presents detailed results by expression type.

In terms of geographical origin, we used the World Bank classification, grouping countries into seven regions: North America, Europe and Central Asia, East Asia and Pacific, South Asia, Middle East and North Africa, sub-Saharan Africa, and Latin America and the Caribbean.[2] Across all regions, the median citation lag remained stable at four years with similar interquartile ranges. Table 3 presents detailed regional results, while figure 2 shows the country level representation. Supplementary table 1 provides complete country level data.

When citation lag was examined by journal impact factor, values were generally consistent across categories, except for journals with an impact factor of 12 or higher, which showed a shorter median lag of three years and narrower interquartile ranges. This finding suggests a tendency in high impact journals to cite more recent references. Table 4 provides detailed results.

We also explored whether including the word "recent" in article titles was associated with differences in the age of cited literature. Articles featuring this word in the title (n=47; median lag 3 years, interquartile range 1.5-5) showed only a slightly shorter citation lag than those without it (n=953; median lag 4 years, interquartile range 2-7), suggesting that mentioning

Table 2 | Citation lag (years) by type of "recent" expression

"Recent" expression	No of articles (%)	Median citation lag (IQR)	Most frequent citation lag*
Global sample	1000 (100)	4 (2-7)	1 (159)
Recent publication	8 (0.8)	1 (0-8)	0 (3)
Recent article	6 (0.6)	1.5 (0.25-2)	2 (3)
Recent trial	44 (4.4)	2 (2-4)	2 (13)
Recent guidelines	14 (1.4)	2 (1-4.75)	0 (3)
Recent paper	12 (1.2)	2 (1.75-4.25)	2 (4)
Recent result	7 (0.7)	2 (1-3)	1 (3)
Recent review	61 (6.1)	3 (1-6)	1 (17)
Recent meta-analysis	51 (5.1)	3 (1-4)	3 (12)
Recent advancement	39 (3.9)	3 (1-6)	1 (9)
Recent analysis	21 (2.1)	3 (2-7)	3 (4)
Recent report	83 (8.3)	4 (2-6.5)	1 (16)
Recent data	50 (5.0)	4 (2-6.75)	4 (10)
Recent finding	36 (3.6)	4 (2-6.25)	2 (8)
Recent work	35 (3.5)	4 (1-6)	1 (10)
Recent evidence	58 (5.8)	4.5 (2-6.75)	2 (11)
Recent development	8 (0.8)	4.5 (1.5-7.25)	0 (2)
Recent research	58 (5.8)	5 (3-10)	3 (9)
Recent literature	38 (3.8)	5 (3.25-12.5)	5 (7)
Recent investigation	17 (1.7)	5 (3-6)	5 (4)
Recent study	280 (28.0)	5.5 (2-10)	2 (39)
Recent discovery	8 (0.8)	7 (5.5-8.25)	7 (2)
Recent approach	5 (0.5)	7 (3-7)	7 (2)

IQR=interquartile range.
Rows are sorted in ascending order based on median lag value. For equal medians, expressions with larger sample sizes appear first. Expressions with fewer than five observations were excluded.
*Citation lag in years (No of occurrences).

"recent" in the title does not substantially influence how up-to-date the cited references are.

When examined by publication year, the citation lag showed a gradual decrease over time. Articles published before 2000 tended to cite considerably older references, with median lags of six to eight years. This lag progressively shortened in more recent decades, reaching a median of 2.5 years for articles published between 2020 and 2025. This finding suggests an overall trend towards citing more contemporary work in recent years. Table 5 gives detailed values.

Discussion

Principal findings

Our investigation confirms what many readers have long suspected, but none have dared to quantify: in the land of biomedical publishing, "recent" is less a measure of time than a narrative device. With a mean citation lag of 5.5 years and a median of 4, the average "recent" reference is just about old enough to have survived two guideline updates and a systematic review debunking its relevance. Our findings align with longstanding concerns over vague or imprecise terminology in scientific writing, which technical editors have highlighted for decades.[3]

To be fair, some references were genuinely fresh—barely out of the editorial oven. But then there were the mavericks: 177 articles cited works 10 years or older, 26 drew on sources more than 20 years old, and in a moment of true historical boldness, four articles described "recent" studies that predated the launch of the first iPhone. The record holder clocked in at a 37 year lag, leaving us to wonder whether the authors confused recent with renaissance.

Medical specialties also offered intriguing temporal recency standards. Critical care, infectious diseases, genetics, immunology, and radiology appeared admirably committed to contemporaneity, with

Table 3 | Citation lag (years) by world region of first author (World Bank classification)

World region	No of articles (%)	Median citation lag (IQR)	Most frequent citation lag*
Global sample	1000 (100)	4 (2-7)	1 (159)
Sub-Saharan Africa	17 (1.7)	3 (2-6)	2 (3)
Europe and Central Asia	332 (33.2)	4 (2-7)	1 (56)
North America	310 (31.0)	4 (2-7.75)	1 (56)
East Asia and Pacific	246 (24.6)	4 (2-8)	2 (39)
Middle East and North Africa	36 (3.6)	5 (2-10)	1 (5)
South Asia	33 (3.3)	5 (3-7)	4 (6)
Latin America and the Caribbean	26 (2.6)	5 (2.25-8)	3 (4)

IQR=interquartile range.
Rows are sorted in ascending order based on median lag value. For equal medians, regions with larger sample sizes appear first.
*Citation lag in years (No of occurrences).

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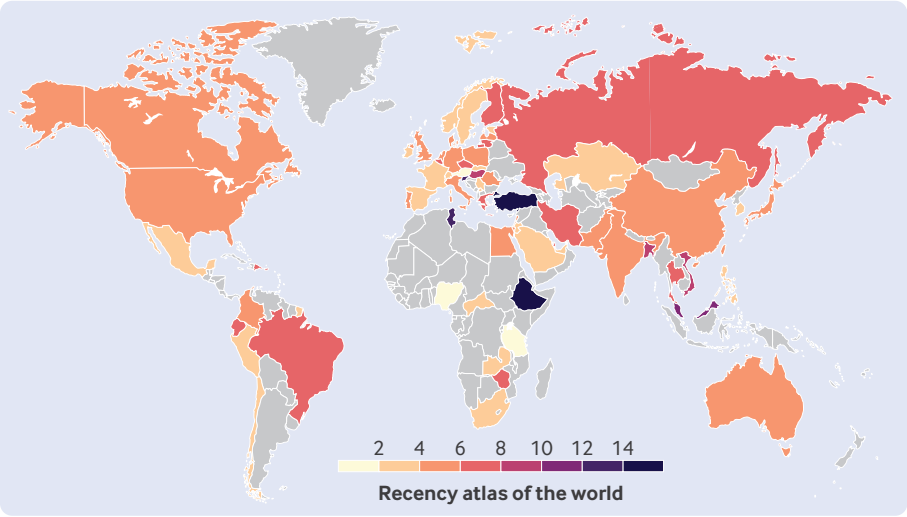

Fig 2 | World map with countries colour coded according to median citation lag in years. Lighter shades indicate countries with shorter citation lags, while darker shades represent longer lags. Countries in grey have no data available in this study. Detailed values and sample sizes for each country are presented in supplementary table 1. Countries with small sample sizes (less than five) should be interpreted with caution. An interactive version of the map is available at https://datawrapper.dwcdn.net/KteRd/1

median lags of around two years. Perhaps the constant churn of new pathogens, genomes, and antibodies keeps them from looking backwards. Nephrology, veterinary medicine, and dentistry, however, embraced a more reflective pace, with median lags ranging from 8.5 to 14 years. We might excuse nephrologists and veterinarians for their retrospective tendencies, but dentistry's love for decade old references raises the possibility that some citations, like wisdom teeth, take a decade to fully emerge. Although the tone here is intentionally playful, it is worth noting that in some fields—like internal medicine, surgery, or epidemiology—foundational studies may remain clinically relevant for decades. In such publications, a long citation lag does not imply obsolescence but reflects the durability of key evidence. Still, using a more precise term than "recent" might better capture that distinction.

The lexicon of "recent" expressions also revealed fascinating differences. Recent publication and recent article showed reassuringly tight timelines, suggesting that for these terms, recent still means what the dictionary intended. Recent trial, recent guidelines, recent paper, and recent result also maintained a commendable sense of urgency, as if they had checked the calendar before going to press. At the other end of the spectrum, recent study, the most commonly used expression, behaved more like recent-ish study, with a median lag of 5.5 years and a long tail stretching into academic antiquity. Recent discovery and recent approach performed even worse, reinforcing the suspicion that some authors consider "recent" a purely ornamental term. Readers may be advised to handle these terms with protective gloves.

Interestingly, the desire to stretch "recent" across time seems to transcend cultural, economic, and linguistic boundaries. Citation lags were broadly similar across world regions, suggesting that the definition of "recent" is universally elastic, perhaps even an intangible asset of academic culture itself. However, over the past decades, authors appear to have developed a healthier association with time, such that recently published manuscripts—pun intended—tend to cite more recently published papers. This steady decline in citation lag hints at a collective effort to keep pace with the accelerating rhythm of research. Whether it represents true intellectual progress or simply academic impatience remains uncertain. Extrapolating the curve, by 2035, "recent" may refer to studies published just days earlier—a triumph of immediacy, if not reflection. At this rate, the concept of "recent" might soon collapse under the weight of its own acceleration.

Finally, journals with 2024 impact factors in the stratosphere (≥12) showed a striking tendency to accumulate "recent" expressions accompanied by minimal citation lags. In these high impact environments, references seem to be treated less like fine wine, meant to mature over time, and more like sushi, best consumed immediately before they lose their appeal. We note this trend with due scholarly

Table 4 | Citation lag (years) by journal impact factor

Impact factor	No of articles (%)	Median citation lag (IQR)	Most frequent citation lag*
Global sample	1000 (100)	4 (2-7)	1 (159)
Impact factor			
<3	438 (43.8)	4 (2-8)	1 (82)
3-6	337 (33.7)	4 (2-7)	2 (45)
6-12	140 (14.0)	4 (2-8)	2 (21)
≥12	85 (8.5)	3 (1-5)	1 (18)

IQR=interquartile range.
*Citation lag in years (No of occurrences).

Table 5 | Citation lag (years) by publication year of citing article

Publication year	No of articles (%)	Median citation lag (IQR)	Most frequent citation lag*
Global sample	1000 (100)	4 (2-7)	1 (159)
1980-1990	27 (2.7)	7.5 (6.0-10.5)	6 (5)
1990-2000	69 (6.9)	6.25 (4.5-8.5)	4 (12)
2000-2010	142 (14.2)	5.0 (3.5-7.25)	5 (23)
2010-2020	361 (36.1)	4.0 (2.0-6.5)	3 (62)
2020-2025	401 (40.1)	2.5 (1.5-6.0)	1 (117)

IQR=interquartile range.
*Citation lag in years (No of occurrences).

caution and, admittedly, a touch of self-awareness, given that we are submitting this analysis to *The BMJ*, a journal firmly situated in this elite category.

Relation to previous work

The use of such temporal and rhetorical expressions is not new. "Recent" joins a proud tradition of vague qualifiers, just ahead of "emerging evidence," "growing body of literature," and "some studies suggest." Previous studies have shown that terms like "currently," "emerging," or "novel" are often used more to signal innovation than to accurately reflect timing.[4-6] This trend aligns with broader patterns in scientific writing, where the use of positive and emphatic language has increased steadily over recent decades.[7-9] Citation practices, too, often serve rhetorical rather than purely informative functions.[8 9] In some cases, they create self-reinforcing networks of authority that allow outdated claims to persist through repeated referencing.[10] This approach is consistent with studies showing that emphatic and ambiguous language can increase article visibility regardless of precision.[11]

Strengths and limitations of this study

This study has limitations. We did not assess the quality or relevance of the cited work, only its age. A 15 year old trial may still be the definitive study in its field, just as a one year old case report may already be obsolete—especially if published in *The Journal of Speculative Pathophysiology*. We also analysed only the first "recent" expression identified within each article. This pragmatic choice, made to preserve feasibility (and sanity), may have overlooked additional instances that would have shown a broader or more balanced picture of temporal elasticity. Likewise, our use of PubMed's "best match" sorting and the decision to stop at a satisfyingly round number of 1000 articles were playful by design but inevitably limit reproducibility. These choices served the spirit of the study, though not necessarily the standards of laboratory precision. Regrettably, we are unable to cite any recent studies to support or challenge our findings—because, to our knowledge, there aren't any. And yes, we checked.

However, this study also has several strengths. Our search drew on a large, diverse, and systematically reviewed sample of full text articles, using transparent methods. Despite its festive tone, our study provides quantitative insight into the remarkable flexibility of the term "recent" across disciplines, languages, and rhetorical styles.

Conclusion

In this study, we found that the term "recent" in biomedical literature can refer to anything from last month's preprint to a study published before the invention of the mobile phone. Despite the rhetorical urgency such expressions convey, the actual citation lag often suggests a more relaxed interpretation of time. Although some fields and phrases showed more temporal discipline than others, the overall picture is one of creative elasticity.

The use of vague temporal language appears to be a global constant, transcending specialties, regions, and decades. Our findings do not call for the abolition of the word "recent," but perhaps for a collective pause before using it— a moment to consider whether it is truly recent or just rhetorically convenient. Authors may continue to deploy "recent" freely, but readers and reviewers might want to consider whether it is recent enough to matter.

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Ethical approval: Ethical approval was not required for this study.

Data sharing: The data extraction sheet used in this study and additional methodological details are available from the corresponding author upon reasonable request.

Transparency: The lead author (the manuscript's guarantor) affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

Dissemination to participants and related patient and public communities: This study did not involve individual research participants. The authors will share a lay summary and key figures through institutional channels and social media to make the findings accessible to a wider audience.

Provenance and peer review: Not commissioned; externally peer reviewed.

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Web appendix: Supplementary table 1