

2. Oncology PRO. Keratoacanthoma and squamous cell carcinoma associated with multikinase inhibitor treatment. <https://oncology.pro.esmo.org/oncology-in-practice/palliative-and-supportive-care/multikinase-inhibitor-related-skin-toxicity/healthcare-professionals/symptoms-and-grading/keratoacanthoma-and-squamous-cell-carcinoma> (Accessed March 8, 2020).
3. Breaker K, Naam M, La Rosa FG, et al. Skin cancer associated with the use of sorafenib and sunitinib for renal cell carcinoma. *Dermatol Surg*. 2013;39:981-987.
4. Chu EY, Wanat KA, Miller CJ, et al. Diverse cutaneous side effects associated with BRAF inhibitor therapy: A clinicopathologic study. *J Am Acad Dermatol*. 2012;67:1265-1272.
5. John AM, Schwartz RA. Muir-Torre syndrome (MTS): An update and approach to diagnosis and management. *J Am Acad Dermatol*. 2016;74:558-566.

A Cross-Sectional Study Comparing Social Media Attention between American and European Dermatology Guidelines

Álvaro Iglesias-Puzas, MD;¹ Alberto Conde-Taboada, PhD;¹ Beatriz Aranegui-Arteaga, PhD;² Eduardo López-Bran, PhD¹

TO THE EDITOR:

The American and European clinical guidelines are recognized sources of valuable evidence based recommendations among dermatologists. As authors, we were curious about which of these two guidelines generates more social attention and consequently more widely disseminated among clinicians, patients, and the general public?

In this cross sectional study, we analyzed the social impact of clinical practice guidelines published in the *Journal of the American Academy of Dermatology* (JAAD) and the *Journal of the European Academy of Dermatology and Venereology* (JEADV) between January 2011 and December 2020. Guidelines were defined as the documents to diagnose and treat dermatologic conditions provided by a systematic review of evidence.^{1,2} A total of 71 guideline documents were analyzed after excluding duplicate documents, incomplete texts, narrative reviews, and consensus statements. For each publication, data regarding Altmetric Attention Score (AAS) and comments on social online platforms (news outlets, Twitter, Facebook, blogs, policy documents, Wikipedia, online videos, patents, and other domains) were tracked using the Altmetric Bookmarklet tool (<https://www.altmetric.com/products/free-tools/bookmarklet/>).³⁻⁶ Further information, including

the date of publication, thematic, free/open access status, and number of literature citations, was extracted. Two bilingual dermatologists (Iglesias-Puzas and Conde-Taboada) conducted the procedure independently and in duplicate, and any discordance was resolved by the third researcher (Aranegui-Arteaga).

In all, 27 US and 44 European dermatology guideline documents were evaluated. Both groups were distributed homogeneously throughout the period analyzed, discussed similar topics, and revealed comparable free/open access status. Facebook, Twitter, and news outlets represented 94.3% of social online platforms (1,388 out of 1,472). A significant difference was established between the median AAS of American (46 [11-91]) and European (5 [1-12.25]) guidelines ($P < 0.001$, Mann-Whitney U test). Social media score in terms of comments on news outlets, Facebook, and Twitter also differed significantly between the two groups, with the US group having maximum mentions ($P < 0.05$, Mann-Whitney U test). Table 1 lists the detailed analysis. Although no statistical difference was determined between the literature citations of American and European guidelines, a significant positive correlation was established between total AAS and literature citations ($P = 0.004$), with a Spearman's rank correlation coefficient of 0.341 (Figure 1).

From the Dermatology Department, Hospital Universitario Clínico San Carlos, Madrid, Spain¹ and Dermatology Department, Hospital Universitario Infanta Cristina, Madrid, Spain²

Address for Correspondence: Álvaro Iglesias-Puzas, MD, Hospital Universitario Clínico San Carlos, c/ Profesor Martín Lagos, s/n, 28040, Madrid, Spain • E-mail: alvaroipuzas@gmail.com

Table 1. Comparison between American and European Guidelines' Characteristics

		GUIDELINES		
		AMERICAN	EUROPEAN	
Journal	JEADV	0	44	
	JAAD	27	0	
Year of publication	2011–2015	10 (37)	18 (40.9)	$P = 0.740^a$
	2016–2020	17 (63)	26 (59.1)	
Thematic	Skin cancer	9 (33.3)	7 (15.9)	$P = 0.086^a$
	Psoriasis	8 (29.6)	8 (18.2)	
	Eczema and autoimmune diseases	6 (22.2)	12 (27.3)	
	Others	4 (14.8)	17 (38.6)	
Free/Open Access	Yes	21 (77.8)	41 (93.2)	0.127 ^a
	No	6 (22.2)	3 (6.8)	
Alternative metrics (median, interquartile range)	AAS	46 (90)	5 (11.25)	$P < 0.001^b$
	Twitter and Facebook	16 (37)	3 (6)	$P = 0.003^b$
	News outlets	4 (8)	0 (0.25)	$P < 0.001^b$
	Other sources	1 (2)	0 (1)	$P = 0.159^b$
Literature citations (median, interquartile range)	Total	90 (155)	51 (112)	$P = 0.203^b$

Abbreviation: JAAD, *Journal of the American Academy of Dermatology*; JEADV, *Journal of the European Academy of Dermatology and Venereology*; AAS, altmetric attention score.

^aChi-square test; ^bFisher's exact test; ^cMann-Whitney U test.

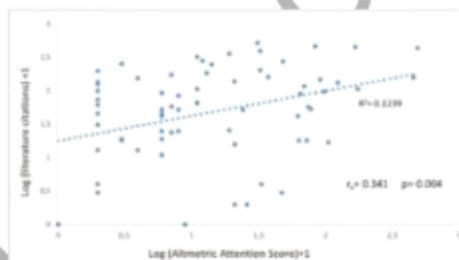


Figure 1. Correlation between Altmetric Attention Score and citation count over a 10-year period (2011–2020), with both axes in logarithmic form and the values adjusted by +1.

This analysis is an attempt to assess the impact of dermatology clinical guidelines beyond the academic environment. Maximum mentions were discovered in posts on Twitter, Facebook, and news outlets; this highlights the importance of these online platforms

in spreading knowledge on research and output. Our findings also suggest a weak correlation between AAS and citations, and thus underscore the use of alternative metrics to contextualize traditional bibliometrics and better understand the social influence of a clinical guideline.³ Despite the limits of Altmetric Bookmarker tool in social media analysis, we observed higher attention for the American clinical guidelines compared with those for the European guidelines; this reveals a need to examine reasons that have accounted for this discrepancy.³ Concerns remain regarding difficulty in differentiating quality and scientific merit from online popularity, and whether alternative metrics can truly predict social engagement or decision-making processes among the academia and the public.⁴

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest. This study met the definition of Institutional Review Board (IRB) exempt research.

ACKNOWLEDGMENTS

Members of the Methodological Research Support Unit of the San Carlos Health Research Institute (IdISSC) helped in the statistical tasks of this document.

REFERENCES

- 1 Jacobs C, Graham ID, Makarski J, et al. Clinical practice guidelines and consensus statements in oncology—An assessment of their methodological quality. *PLoS One*. 2014;9:e116267.
- 2 AlRyalat SA, Malkawi L, Alsaedi AA, et al. Comparing the attention score between American and European cardiology guidelines. *High Blood Press Cardiovasc Prev*. 2020;27:259–264.
- 3 Chau M, Ramedani S, King T, Aziz F. Presence of social media mentions for vascular surgery publications is associated with an increased number of literature citations. *J Vasc Surg*. 2021;73:1096–1103.
- 4 Luc JGY, Percy E, Hirji S, et al. Predictors of high-impact articles in the annals of thoracic surgery. *Ann Thorac Surg*. 2020;110:2096–2103.
- 5 Warren VT, Patel B, Boyd CJ. Determining the relationship between altmetric score and literature citations in the oral and maxillofacial surgery literature. *J Oral Maxillofac Surg*. 2020;78:1460.e1–1460.e7.