The Journal Impact Factor 2021

On June 30, 2022, the Clarivate™ media group published the new rankings of scientific journals with impact factor in its *Journal Citation Reports*. For the 2021 reporting year, 9,588 of the 9,626 journals included have a journal impact factor (JIF).

The dental journals that had a JIF in 2021 are listed below. For comparison, the 20 scientific journals with the highest JIF are contrasted. The overview is concluded with current critical comments on the JIF.

JIF rank 2021	Journal	JIF 2021	JIF 2020	JIF rank 2020
1	International Journal of Oral Science	24.897	6.344	4
2	Periodontology 2000	12.239	7.589	2
3	Journal of Dental Research	8.924	6.116	5
4	Journal of Clinical Periodontology	7.478	8.728	1
5	Japanese Dental Science Review	6.468	5.093	11
6	Oral Oncology	5.972	5.337	7
7	Dental Materials	5.687	5.304	8
8	International Endodontic Journal	5.165	5.264	10
9	Journal of Evidence-Based Dental Practice	5.100	5.267	9
10	Clinical Oral Implants Research	5.021	5.977	6
11	Journal of Dentistry	4.991	4.379	14
12	Journal of Periodontology	4.494	6.993	3
13	Journal of Endondontics	4.422	4.171	16
14	Journal of Prosthodontic Research	4.338	4.642	12
15	Journal of Adhesive Dentistry	4.309	2.359	51
16	Clinical Implant Dentistry and Related Research	4.259	3.932	18
17	Journal of Prosthetic Dentistry	4.148	3.426	25
18	Molecular Oral Microbiology	4.107	3.563	22
19	Oral Diseases	4.068	3.511	23
20	Journal of Periodontal Research	3.946	4.419	13
21	Caries Research	3.918	4.056	17
22	BMC Oral Health	3.747	2.757	35
23	Journal of Dental Sciences	3.719	2.080	59
24	International Journal of Oral Implantology	3.654	---	---
25	Clinical Oral Investigations	3.606	3.573	21
26	Journal of Oral Rehabilitation	3.558	3.837	19
27	Journal of Oral Pathology & Medicine	3.539	4.253	15
28	Dentomaxillofacial Radiology	3.525	2.419	49
29	Journal of Prosthodontics – Implant, Esthetic, and Reconstructive Dentistry	3.485	2.757	36
30	Journal of the American Dental Association	3.454	3.634	20
31	Dental Traumatology	3.328	3.333	27
32	International Journal of Paediatric Dentistry	3.264	3.455	24
33	Progress in Orthodontics	3.247	2.750	37
34	Journal of Cranio-Maxillofacial Surgery	3.192	2.078	61
35	Journal of Applied Oral Science	3.144	2.698	38
36	European Journal of Orthodontics	3.131	3.075	29
37	Oral and Maxillofacial Surgery Clinics of North America	3.130	2.802	33
38	Journal of Esthetic and Restorative Dentistry	3.040	2.843	31
39	Implant Dentistry	3.000	2.454	47
40	International Journal of Oral and Maxillofacial Surgery	2.986	2.789	34
41	International Journal of Implant Dentistry	2.984	2.384	50
42	Operative Dentistry	2.937	2.440	48

Table 1 Journal impact factor (JIF) for 2021 for the 92 journals listed in the category *Dentistry, Oral Surgery & Medicine* with comparison of the previous year's JIF.

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JIF rank 2021	Journal	JIF 2021	JIF 2020	JIF rank 2020
43	International Journal of Computerized Dentistry	2.923	1.883	67
44	International Journal of Oral and Maxillofacial Implants	2.912	2.804	32
45	Odontology	2.885	2.634	40
46	Medicina Oral, Patología Oral y Cirugía Bucal	2.883	2.047	62
47	Gerodontology	2.750	2.980	30
48	British Dental Journal	2.727	1.626	79
49	International Journal of Dental Hygiene	2.725	2.477	46
50	American Journal of Orthodontics and Dentofacial Orthopedics	2.711	2.650	39
51	Angle Orthodontist	2.684	2.079	60
52	Brazilian Oral Research	2.674	2.203	---
53	Archives of Oral Biology	2.640	2.633	41
54	International Dental Journal	2.607	2.512	45
55	Orthodontics & Craniofacial Research	2.563	1.826	72
56	Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology	2.538	2.589	44
57	European Journal of Dental Education	2.528	2.355	52
58	Community Dentistry and Oral Epidemiology	2.489	3.383	26
59	Journal of Stomatology, Oral and Maxillofacial Surgery	2.480	1.569	80
60	Journal of Oral Facial Pain & Headache	2.457	1.871	69
61	Dental Materials Journal	2.418	2.102	58
62	Pediatric Dentistry	2.378	1.874	68
63	Journal of Orofacial Orthopedics – Fortschritte der Kieferorthopädie	2.341	1.938	64
64	European Journal of Paediatric Dentistry	2.327	2.231	56
65	Journal of Dental Education	2.313	2.264	55
66	Australian Dental Journal	2.259	2.291	54
67	Journal of Public Health Dentistry	2.258	1.821	73
68	Head & Face Medicine	2.246	2.151	57
69	Acta Odontologica Scandinavica	2.232	2.331	53
70	International Journal of Periodontics & Restorative Dentistry	2.227	1.840	71
71	Quintessence International	2.175	1.677	76
72	European Journal of Oral Sciences	2.160	2.612	43
73	Journal of Oral and Maxillofacial Surgery	2.136	1.895	66
74	Journal of Periodontal and Implant Science	2.086	2.614	42
75	British Journal of Oral & Maxillofacial Surgery	2.018	1.651	78
76	Journal of Advanced Prosthodontics	1.989	1.904	65
77	Cleft Palate-Craniofacial Journal	1.915	1.433	83
78	Oral Radiology	1.882	1.852	70
79	International Journal of Prosthodontics	1.785	1.681	75
80	American Journal of Dentistry	1.748	1.522	82
81	Australian Endodontic Journal	1.719	1.659	77
82	Cranio – The Journal of Craniomandibular Practice	1.670	2.020	63
83	Journal of Oral Science	1.630	1.556	81
84	Oral Health & Preventive Dentistry	1.595	1.256	87
85	Journal of Oral Implantology	1.546	1.779	74
86	Korean Journal of Orthodontics	1.361	1.372	84
87	Journal of the Canadian Dental Association	1.348	1.316	86
88	Seminars in Orthodontics	1.340	0.970	89
89	Journal of Clinical Pediatric Dentistry	1.338	1.065	88
90	Community Dental Health	1.330	1.349	85
91	Australasian Orthodontic Journal	0.269	0.226	90
92	Implantologie	0.127	0.125	91

Table 1 Journal impact factor (JIF) for 2021 for the 92 journals listed in the category *Dentistry, Oral Surgery & Medicine* with comparison of the previous year's JIF (continuation).

Year	JIF
2021	24.897
2020	6.344
2019	3.047
2018	2.750
2017	4.138
2016	3.930
2015	2.595
2014	2.531
2013	2.029
2012	2.719
2011	1.411
2010	0.815

Table 2 Development of the JIF of the *International Journal of Oral Science* between 2010 and 2020.

JIF rank2021	Journal	JIF2021
1	CA-A Cancer Journal for Clinicians	286.130
2	Lancet	202.731
3	New England Journal of Medicine	176.079
4	Journal of the American Medical Association	157.335
5	Nature Reviews Molecular Cell Biology	113.915
6	Nature Reviews Drug Discovery	112.288
7	Nature Reviews Immunology	108.555
8	Lancet Respiratory Medicine	102.642
9	British Medical Journal	93.333
10	Nature Medicine	87.241
11	Lancet Microbe	86.208
12	World Psychiatry	79.683
13	Nature Reviews Microbiology	78.297
14	Lancet Psychiatry	77.056
15	Nature Reviews Materials	76.679
16	Nature Reviews Gastroenterology & Hepatology	73.082
17	Lancet Public Health	72.427
18	Chemical Reviews	72.087
19	Lancet Infectious Diseases	71.421
20	Nature Reviews Cancer	69.800
…	…	
9,588	Sen-I Gakkaishi (Journal of the Society of Fiber Science and Technology, Japan)	0.016

Table 3 The 20 scientific journals with the highest journal impact factor (JIF) and the bottom of the ranking of 2021. Note: Nineteen of the top 20 journals are from the biomedical field.

Included journals and general development

The *Dentistry, Oral Surgery & Medicine* category includes 92 journals with a JIF, one more than in previous years due to

- the new inclusion of the *International Journal of Oral Implantology* and
- the journal *Brazilian Oral Research*, which was included too late in the previous year,
- while eliminating the title *European Journal of Oral Implantology* (renamed *International Journal of Oral Implantology* as of January 2019) (Table 1).

The 2021 JIF values range from 0.127 (the German-language journal Implantologie) to – almost incredibly for dental journals – 24.897 (International Journal of Oral Science), tripling the peak value of the previous year (8.728, Journal of Clinical Periodontology; see Table 2 for the evolution of this journal). Although the JIF-related arithmetic mean of all dental journals increased from just under 2.9 in 2020 to just almost 3.4 in 2021, 24 of the 91 journals have a lower JIF than in the previous year.

To "rank" the JIF of dental journals in the overall picture of all scientific journals, Table 3 shows the 20 journals with the highest JIF values.

"The citation frequency is often equated with the quality of a journal. However, this is incorrect. The citation frequency can only be used for statements about the impact of a scientific article, less for the content-related quality of the results."

Dr. Jasmin Schmitz, head of publication consulting, Publisso, ZB MED – Information Centre for Life Sciences, Cologne, Germany [6]

Criticism of the JIF

The numerous weaknesses and shortcomings of the JIF have been extensively documented in the literature (e.g., [3, 8]) and in the JIF-specific analyses published annually in this journal and the *Deutsche Zahnärztliche Zeitschrift* since 2015. In the past 12 months, criticisms have included (Table 4):

- The calculation of the JIF as an arithmetic mean,
- the lack of differentiation between the various publication types (research articles, reviews, clinical recommendations, etc.),
- the manipulative-distorting influence of self-citations and citation cartels,
- the misconception that contributions published in JIF journals are

Citation	Source
"One of the most commonly noted constraints of the JIF is its calculation as a mean. This mode of data representation has the potential limitation of a small number of highly cited manuscripts disproportionately influencing the JIF. Therefore, if the number of citations per article is a skewed distribution, a metric based on a calculation of a mean could render an evaluation that is not representative of the majority of the articles included in the calculation."	Daugherty et al. [1]
"The other most commonly described constraint of the JIF is an aggregate index encompassing many different types of publications that include not only original research articles but also reviews, guidelines, and statements, which have higher citation metrics."	Daugherty et al. [1]
"For example, a journal (A) scored almost a double increase in its IF during just 4 years. It turned out that in a review published in another journal (B), out of 490 references 445 were citations of articles published by journal A and all of them during 2 years from which the journal's IF was calculated. Incidentally, three of the four authors of that review were on the editorial board of journal A. While self-citations are very easy to identify, citation cartels are difficult to track and can do the most harm to scientometrics based on manipulated data."	Górski et al. [2]
"In view of the above, we can conclude that the evaluation of the quality of publications based exclusively on the impact of the journal in which the article was published is, in addition to being imprecise, unfair in the case of the nursing discipline, given the limited possibility of publishing in this type of journal for our group."	Salamanca Castro [5]
"Although the JIF refers to a journal as a whole and says nothing about the influence or even the scientific quality of individual articles, it is often used to assess the research performance of scientists. This is not the only reason why the JIF is often criticized. It is also highly dependent on the subject area and thus not comparable across disciplines; in addition, it only takes into account the past two years in each case. The calculation is not very transparent and often not independently reproducible."	Open Access Network [4]
"To be able to cite journals by rank, JIFs are given to three decimal places and without confidence intervals or error bars. However, this data accuracy is an illusion. Measuring citation counts is not an exact science, as has been shown in several examples in bibliometrics, e.g., Vanclay, 2012."	University of Zurich [7]

Table 4 Critical statements on the JIF
Tab. 1–4: J. C. Türp

automatically of high quality or that only articles published in JIF journals are of high quality,
- the lack of comparability among different disciplines,
- the misconception that the JIF is a precise value.

Conflict of interest

The author declares that there is no conflict of interest as defined by the guidelines of the International Committee of Medical Journal Editors.

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