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Publication rates of abstracts presented at the 23rd (2013) and 24th (2014) National Turkish Orthopedics and Traumatology Congresses: We are not improving

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ABSTRACT

Objectives: The aim of this study was to determine 1) the publication rates of podium and poster presentations from the 23rd (2013) and the 24th (2014) National Turkish Orthopedics and Traumatology Congresses in peer-reviewed journals and (2) compare these rates with publication rates from the 20th congress (2007) published previously. The secondary objective was to determine the time lag to publication and compare this data with the data from the 20th congress.

Methods: All abstracts from the scientific programs of the 23rd (2013) and the 24th (2014) National Turkish Orthopedics and Traumatology Congresses were identified and computerized PubMed searches were conducted to determine whether an abstract had been followed by publication of a full-text article in peer-reviewed journals. The time lag to publication was also noted.

Results: Of the 993 presentation abstracts (302 podium and 691 poster presentations) from the 23rd congress and of the 940 presentation abstracts (310 podium and 630 poster presentations) from the 24th congress, 278 (28%) and 234 (24.9%) were followed by a full-text article in peer-reviewed journals indexed by PubMed, respectively. The rates of publication of the podium and poster presentations were 39.4% (119/302) and 23% (159/691), respectively from the 23rd and 37.7% (117/310) and 18.6% (117/630), respectively from the 24th congresses. The mean time to publication of the abstracts from the 23rd congress was 12.8 ± 18.8 (median: 13, range: −140 to 47) months and the mean time to publication of the abstracts from the 24th congress was 11.1 ± 14.42 (median: 11, range: −73 to 39) months. Fifty (50/278, 18%) abstracts from the 23rd congress (mean −11, range: [−32]–[−1], median −5 months) and 37 (37/234, 15.8%) abstracts from the 24th congress (mean −10.4, range: [−73]–[−1], median −4 months) were published as full-text articles prior to the presentation at the congress.

Conclusion: The vast majority of abstracts presented at 23rd (2013) and the 24th (2014) National Turkish Orthopedics and Traumatology Congresses were not followed by publication of a full-text article in peer-reviewed journals. The publication rates of the abstracts presented at these congresses did not improve when compared with the 20th (2007) congress.

Introduction

National Turkish Orthopedics and Traumatology Congresses are large and popular meetings and around 2000 physicians attended to each the 23rd (2013) and the 24th (2014) meetings. The Turkish Orthopedics and Traumatology Society, with approximately 3000 members, is one of the largest orthopedic associations in the world and the National Turkish Orthopedics and Traumatology Congresses are being held since 1966. Such meetings offer opportunities to orthopedic surgeons, physiatrists, rheumatologists, physiotherapists, and basic scientists to present their research in musculoskeletal medicine and gain useful feedback and comments from the scientific community.

The scientific quality of studies presented at a scientific meeting is a reflection of the scientific research around the time the meeting

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is organized. Of course, getting the study published in a peer-reviewed journal with a high impact factor should be the ultimate goal for a researcher. This is also the best indicator of the real scientific success of a meeting because the quality of an abstract is associated with the likelihood of subsequent publication.[1,2] However, many abstracts presented at scientific meetings are never published as full-text articles in peer-reviewed indexed journals.[1–3]

Therefore, it is important to question the scientific validity of these presentations through the assessment of their subsequent publication rates in the peer-reviewed literature. Publication rates from the 20th National Turkish Orthopedics and Traumatology Congress (2007) showed that 29.5% of abstracts presented were ultimately published in PubMed indexed journals over the subsequent 5 years.[2]

The current study was planned to determine the publication rates of abstracts presented at the 23rd (2013) and the 24th (2014) National Turkish Orthopedics and Traumatology Congresses in PubMed indexed journals and compare this data with the publication rates published previously from the 20th congress (2007).[2] The time lag to publication was also evaluated and compared with the data from the 20th (2007) congress.[2] These comparisons are expected to show the change of the level of scientific research in the field of orthopedics in Turkey and identify publication trends between the meetings.

Materials and methods

All abstracts from the scientific programs of the 23rd (2013)[4] and the 24th (2014)[5] National Turkish Orthopedics and Traumatology Congresses published in *Acta Orthopaedica et Traumatologica Turcica* as Congress Proceedings Supplementum were identified and subdivided into podium and poster presentations. There was a total of 993 presentation abstracts (302 podium and 691 poster presentations) in 2013 and 940 presentation abstracts (310 podium and 630 poster presentations) in 2014.

To determine whether a presentation abstract had been followed by publication of a full-text article, computerized PubMed (http://www.ncbi.nlm.nih.gov/pubmed) searches were conducted which included all publications by all authors, starting with the first author. Searches were first performed using author names. If no results were found the search was repeated using key words from the abstract title combined with author names, using the Boolean operator *AND*. If differences in the title or authors of a published article were recognized, the contents of the presentation abstract and the published article were compared and the full-text article was either accepted or excluded as a subsequent publication.

Publication date and time lag to publication from each final full-text article were identified. Presentations published before the congress were included in the study and their publication period was accepted as minus (−) months. The names of the journals in which the full text articles were published and their indexing status by the Science Citation Index (SCI) and the Science Citation Index Expanded (SCI-E) were noted.[6] Published articles having a cohort consisting of 10 or less patients were considered as “case report”. This study did not specifically evaluate the reasons for non-publication.

Data were analyzed using the PASW Statistics 18 statistical software package (2009; SPSS Inc., Chicago, IL, USA). Chi-squared analysis was used to assess the publication rates of abstracts presented at the 23rd and the 24th congresses to the 20th congress. Significance level was set at $p < 0.05$.

Results

Of the 993 presentation abstracts (302 podium and 691 poster presentations) from the 23rd congress[4] and of the 940 presentation abstracts (310 podium and 630 poster presentations) from the 24th congress[5] 278 (28%) and 234 (24.9%) were followed by a full-text article in peer-reviewed journals indexed by PubMed, respectively. The rates of publication of the podium and poster presentations were 39.4% (119/302) and 23% (159/691), respectively from the 23rd and 37.7% (117/310) and 18.6% (117/630), respectively from the 24th congresses.

Chi-squared analysis showed that there is no statistical difference between the publication rates of abstracts presented at the 20th (29.5%) and the 23rd (28%) congresses ($p = 0.49$). However, there was a statistical difference between the publication rates of abstracts presented at the 20th (29.5%) and the 24th (24.9%) congresses ($p = 0.033$).

The mean time to publication of the abstracts from the 23rd congress was 12.8 ± 18.8 (median: 13, range: −140 to 47) months and the mean time to publication of the abstracts from the 24th congress was 11.1 ± 14.42 (median: 11, range: −73 to 39) months. Fifty (50/278, 18%) abstracts from the 23rd congress (mean: −11, range: −32 to −1, median −5 months) and 37 (37/234, 15.8%) abstracts from the 24th congress (mean: −10.4, range: −73 to −1, median −4 months) were published as full-text articles prior to the presentation at the congress (Table 1).

When the articles which were published prior to presentation at the 23rd congress were left out, it was found that the majority of the presentation abstracts were published as full-text articles during the first 2 years after the congress. Of the 228 full-text articles, 78 (34.2%) were published in the first, 82 (36%) in the second, 46 (20.2%) in the third, and 22 (9.6%) in the fourth years (Table 2). The same was true for the 24th congress; of the 197 full-text articles, 84 (42.6%) were published in the first, 78 (39.6%) in the second, 29 (14.7) in the third, and 6 (3%) in the fourth years (Table 3).

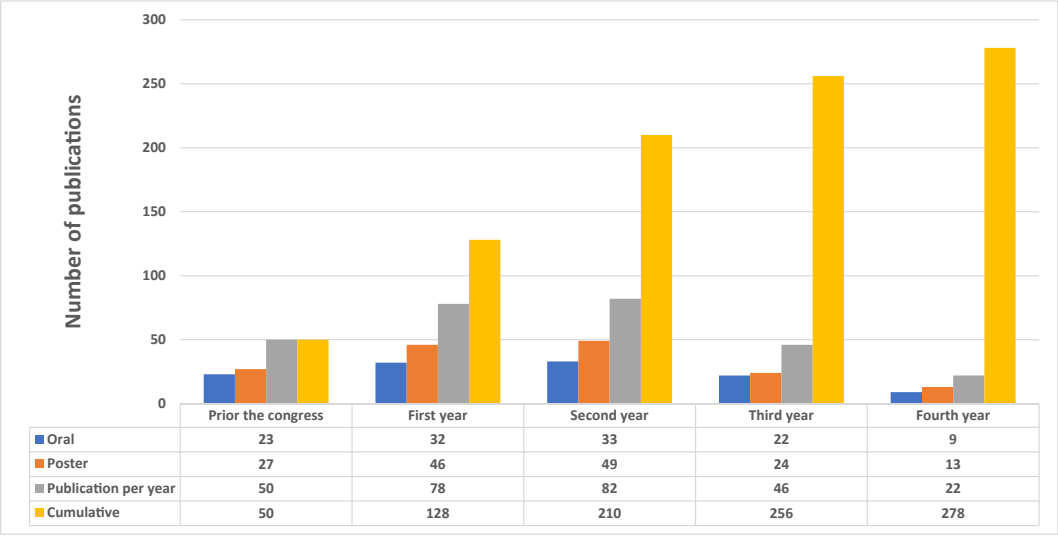
For the 23rd congress, full-text articles were published in 85 different journals, with 105 (37.8%) in the following 5 journals topping the list: 52 (18.7%) *Acta Orthopaedica et Traumatologica Turcica*, 17 (6.1%) *Joint Diseases and Related Surgery*, 14 (5%) *Knee Surgery*, *Sports Traumatology*, *Arthroscopy*, 12 (4.3%) *European Journal of Orthopaedic Surgery & Traumatology*, and 10 (3.6%) *Turkish Journal of Trauma & Emergency Surgery* (Table 4). Of these published articles, 219 were feature articles (219/278, 78.8%) and 59 were case reports (59/278, 21.2%). Of the 219 feature articles, 36 (16.4%) were published in SCI and 157 (71.7%) in SCI-E indexed journals. Twenty-six (16.4%) of the feature articles were published in journals that were not indexed either by SCI or SCI-E. Of the 59 case reports, 4 (6.8%) were published in SCI and 28 (47.5%) in SCI-E indexed journals. Twenty-seven (45.8%) of the case reports were published in journals that were not indexed either by SCI or SCI-E (Table 4).

For the 24th congress, full-text articles were published in 92 different journals, with 69 (29.5%) in the following 5 journals topping the list: 30 (12.8%) *Acta Orthopaedica et Traumatologica Turcica*, 12 (5.1%) *Joint Diseases and Related Surgery*, 11 (4.7%) *International Journal of Surgical Case Reports*, 9 (3.8%) *Turkish Journal of Trauma & Emergency Surgery*, and 7 (3%) *European Spine Journal*. Of these published articles, 187 were feature articles (187/234, 79.9%) and 47 were case reports (47/234, 20.1%). Of the 187 feature articles, 25 (13.3%) were published in SCI and 106 (56.7%) in SCI-E indexed journals. Fifty-six (30.9%) of the feature articles were published in journals that were not indexed either by SCI or SCI-E. Of the 47 case reports, 1 (2.1%) was published in SCI and 18 (38.3%) in SCI-E indexed journals. Twenty-eight (59.6%) of the case reports were published in journals that were not indexed either by SCI or SCI-E (Table 5).

Table 1
Congress details.

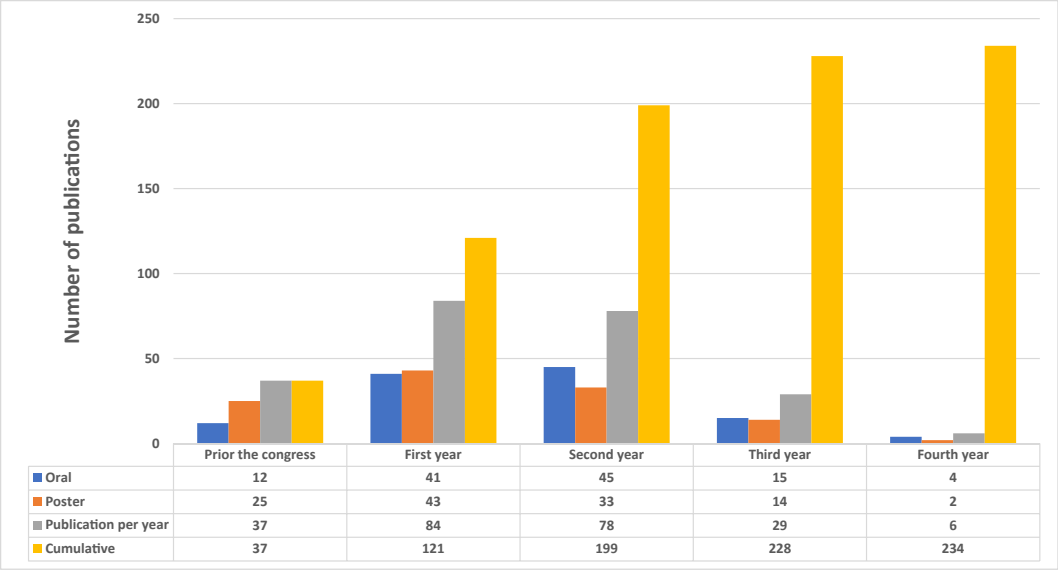
		20th Turkish National Orthopedics and Traumatology Congress	23rd Turkish National Orthopedics and Traumatology Congress	24th Turkish National Orthopedics and Traumatology Congress
Congress details	Years analyzed	2007–2012	2013–2017	2014–2018
	Number of abstracts	770	993	940
	Publication rate	29,5% (227/770)	28% (278/993)	24,9% (234/940)
	Mean time to publication	14,9 months (median: 13, range: −33 to 55)	12,8 months (median: 13, range: −140 to 47)	11,1 months (median: 11, range: −73 to 39)

Table 2
Time to publication of the abstracts from the 23rd congress.



	Prior the congress	First year	Second year	Third year	Fourth year
Oral	23	32	33	22	9
Poster	27	46	49	24	13
Publication per year	50	78	82	46	22
Cumulative	50	128	210	256	278

Table 3
Time to publication of the abstracts from the 24th congress.



	Prior the congress	First year	Second year	Third year	Fourth year
Oral	12	41	45	15	4
Poster	25	43	33	14	2
Publication per year	37	84	78	29	6
Cumulative	37	121	199	228	234

Discussion

Presentations at meetings provide an important forum to disseminate current research findings and focus on future research efforts. Presentation abstracts provide a foundation for understanding the nature and results of a study, but they fall short of obtaining a more profound understanding of the methodology, study outcomes, and a detailed discussion of the researchers.

Table 4
Publication rate per journal for the 23rd (2013) congress.

Ranking	Journal	Overall (N,%)	SCI, SCI-E Indexing
1	Acta Orthopaedica et Traumatologica Turcica	52, %18,7	SCI-E
2	Joint Diseases and Related Surgery	17, %6,1	SCI-E
3	Knee Surgery, Sports Traumatology, Arthroscopy	14, %5	SCI
4	European Journal of Orthopaedic Surgery & Traumatology	12, %4,3	–
5	Turkish Journal of Trauma and Emergency Surgery	10, %3,6	SCI-E
6	Journal of Pediatric Orthopaedics B	9, %3,2	SCI-E
7	Archives of Orthopaedic and Trauma Surgery	8, %2,9	SCI-E
8	International Journal of Surgery Case Reports	8, %2,9	–
9	Case Reports in Orthopedics	8, %2,9	–
10	Journal of Foot and Ankle Surgery	7, %2,5	SCI-E
11	Journal of the American Podiatric Medical Association	7, %2,5	SCI-E
12	Acta Orthopaedica Belgica	7, %2,5	SCI-E
13	Clinical Orthopaedics and Related Research	6, %2,2	SCI
14	Hip International	6, %2,2	SCI-E
15	Indian Journal of Orthopaedics	5, %1,8	SCI-E
16	The Journal of Arthroplasty	4, %1,4	SCI-E
17	Orthopedics	4, %1,4	SCI-E
18	Journal of Pediatric Orthopaedics	4, %1,4	SCI-E
19	Spine	3, %1	SCI
20	Injury	3, %1	SCI-E
21	International Orthopaedics	3, %1	SCI-E
22	Acta Ortopedica Brasileira	3, %1	SCI-E
23	Journal of Orthopaedic Surgery and Research	3, %1	SCI-E
24	The Journal of Hand Surgery	2, %0,72	SCI-E
25	Knee	2, %0,72	SCI-E
26	Skeletal Radiology	2, %0,72	SCI
27	The Journal of Knee Surgery	2, %0,72	SCI-E
28	Turkish Neurosurgery	2, %0,72	SCI-E
29	Clinical Interventions in Aging	2, %0,72	SCI-E
30	Journal of the College of Physicians and Surgeons Pakistan	2, %0,72	SCI-E
31	Journal of Orthopaedics	2, %0,72	–
32	Scandinavian Journal of Clinical and Laboratory Investigation	2, %0,72	SCI
33	Advances in Orthopedics	2, %0,72	–
34	The Eurasian Journal of Medicine	2, %0,72	–
35	Medicine	2, %0,72	SCI
36	Journal of Clinical Orthopaedics and Trauma	2, %0,72	–
37	The American Journal of Sports Medicine	1, %0,36	SCI
38	Journal of Shoulder and Elbow Surgery	1, %0,36	SCI
39	Journal of Orthopaedic Surgery	1, %0,36	SCI
40	Foot & Ankle International	1, %0,36	SCI-E
41	Journal of Orthopaedic Trauma	1, %0,36	SCI
42	Joint Bone Spine	1, %0,36	SCI
43	European Spine Journal	1, %0,36	SCI-E
44	Orthopaedics & Traumatology: Surgery & Research	1, %0,36	SCI-E
45	Spine Journal	1, %0,36	SCI-E
46	Microsurgery	1, %0,36	SCI-E
47	Gait & Posture	1, %0,36	SCI
48	Annals of Plastic Surgery	1, %0,36	SCI
49	Journal of the Pakistan Medical Association	1, %0,36	SCI-E
50	Journal of Orthopaedic & Sports Physical Therapy	1, %0,36	SCI
51	Journal of Plastic, Reconstructive & Aesthetic Surgery	1, %0,36	SCI
52	Journal of Back and Musculoskeletal Rehabilitation	1, %0,36	SCI-E
53	Physiotherapy Theory and Practice	1, %0,36	SCI-E
54	American Journal of Physical Medicine & Rehabilitation	1, %0,36	SCI
55	The International Journal of Medical Robotics and Computer Assisted Surgery	1, %0,36	SCI-E
56	Medical Principals and Practice	1, %0,36	SCI-E
57	Singapore Medical Journal	1, %0,36	SCI-E
58	Chinese Journal of Cancer	1, %0,36	SCI-E
59	Clinical Dysmorphology	1, %0,36	SCI-E
60	Clinical Rheumatology	1, %0,36	SCI-E
61	The American Journal of Emergency Medicine	1, %0,36	SCI-E
62	Child's Nervous System	1, %0,36	SCI
63	International Journal of Surgery	1, %0,36	SCI-E
64	Turkish Journal of Medical Sciences	1, %0,36	SCI-E
65	Journal of Hand and Microsurgery	1, %0,36	–
66	Asian Spine Journal	1, %0,36	–
67	Journal of Craniovertebral Junction & Spine	1, %0,36	–
68	Journal of Brachial Plexus and Peripheral Nerve Injury	1, %0,36	–
69	Turkish Archives of Pediatrics	1, %0,36	–
70	Turkish Journal of Emergency Medicine	1, %0,36	–
71	The American Journal of Orthopedics	1, %0,36	–
72	World Journal of Orthopedics	1, %0,36	–
73	The Knee Surgery and Related Research	1, %0,36	–
74	Ortopedia Traumatologia Rehabilitacja	1, %0,36	–

(*continued on next page*)

Table 4 (*continued*)

Ranking	Journal	Overall (N,%)	SCI, SCI-E Indexing
75	Serbian Archives of Medicine	1, %0,36	SCI-E
76	Alternative Therapies in Health and Medicine	1, %0,36	SCI-E
77	Journal of Physical Therapy Science	1, %0,36	–
78	Joints	1, %0,36	–
79	Indian Journal of Surgery	1, %0,36	SCI-E
80	Musculoskeletal Surgery	1, %0,36	–
81	Case Reports in Plastic Surgery and Hand Surgery	1, %0,36	–
82	Journal of Surgical Case Reports	1, %0,36	–
83	BMJ Case Reports	1, %0,36	–
84	The Open Orthopaedics Journal	1, %0,36	–
85	Archieves of Iranian Medicine	1, %0,36	SCI-E

Abbreviations: SCI: Science Citation Index; SCI-E: Science Citation Index Expanded.

Publication of these presentations in peer-reviewed academic journals is the well-established ultimate goal of a researcher. Peer review also ensures the quality of the research.

Since these meetings are a part of the on-going medical education, it is important to evaluate the scientific validity of these presentations by assessing their subsequent abstract-to-publication rates in peer-reviewed and SCI/SCI-E indexed journals, compare them with previously reported similar data, and analyze developing trends.[7,8] There has only been one previous study investigating the fate of abstracts presented at National Turkish Orthopedics and Traumatology Congresses.[2] In this report, Yalçınkaya and Bagatur analyzed the abstracts presented at the 20th congress and showed that 29.5% of abstracts were subsequently published as full-text articles in peer-reviewed journals indexed by PubMed. This is the second study reporting the publication rates of presentations of National Turkish Orthopedics and Traumatology Congresses.

Reports across medical specialties have documented that a considerable number of presentations never reach the ultimate goal of publication, with rates ranging from 22 to 89%.[1,3,7–9] However, the 29.5% subsequent publication rate from the previous study was quite disappointing.[2] The current study was planned to determine both the publication rates of abstracts presented at the 23rd and the 24th National Turkish Orthopedics and Traumatology Congresses and compare the results with the previously reported publication rates. This comparison was expected to show an improvement in the rates and identify publication trends. Previously, only 2 similar studies that investigated if any change had occurred in the publication rates of the same meeting over time were published.[10,11] In the first of these studies,[10] an improvement in abstract to publication ratio was observed between 2 meetings, and in the second[11] the publication rate was found to be reduced.

Surprisingly, publication rates from the 23rd and the 24th National Turkish Orthopedics and Traumatology Congresses were even lower when compared to the 20th congress which had 29.5% rate, with an overall publication rate of 28% and 24.9%, respectively. The rates of publication of the podium and poster presentations were 39.4% (119/302) and 23% (159/691), respectively from the 23rd and 37.7% (117/310) and 18.6% (117/630), respectively from the 24th congresses. All these figures, except the figure of poster presentations, from the 23rd congress is substantially lower than those reported in the previous study, 44% for podium and 22% for poster presentations. Although it is known that podium presentations typically consist of studies of higher scientific value[12] and they are more than twice as likely to be published compared to poster presentations,[3] 23% and 18.6% publication rates for poster presentations still suggest that the scientific quality of the poster presentations at the 23rd and 24th congresses was very insufficient.

Moreover, a total of 52 (18.8%) of the published 276 poster abstracts were published as full-text articles prior the congress and 86 of the published 276 poster abstracts were published in journals that were not indexed either by SCI or SCI-E. Although it was not specified by the Reading Committee that only unpublished studies be submitted for review, it is a well-known fact that only new and unpublished data must be presented in meetings. However, this is a common practice in many meetings.[2,3] Since this habit of presenting already published data repeatedly poses a publication ethics issue, a declaration signed by the abstract submitters that confirms that the study was not published before may be demanded by the congress organizers in the future. We hope that this study might be a warning for congress organizers about this problem.

One reason for this low publication rate may be partly due to the high number of abstracts accepted for presentations. In 2013, 993 out of the 1242 (80%) submitted abstracts and in 2014, 940 out of the 1135 (82.8%) were accepted for presentation (The Turkish Orthopedics and Traumatology Society Head Office, oral communication, March 2018). Ideally, the abstracts selected for presentation should be of the high quality.[9] Although the number of abstracts submitted for the annual meeting for the American Academy of Orthopaedic Surgeons (AAOS) grows continuously, AAOS keeps overall acceptance around 25% each year, equally split between oral and poster presentations.[8] This in contrast with the 80% and 82.8% acceptance rates in the 23rd and 24th congresses, respectively.

Another reason for the low publication rate is probably due to the considerably high number of case report abstracts among poster presentations. 101 out of the 276 (36.6%) subsequently published poster presentations were case reports. It is a fact that scientific journals indexed by SCI or SCI-E publish very few case reports and some of them do not publish case reports at all and currently getting a case report published in a respectable journal is quite troublesome.[13] Consequently, abstract-to-publication rate was very low with case reports affecting the overall publication rates.

At this point, another issue arises as the journals at which these case reports were published were frequently open-access journals devoted to publish case reports only and on condition that a certain fee under the name “article processing charges” is payed. Furthermore, these journals are not indexed by SCI or SCI-E. This fact alone gives enough hints about the quality of the case reports, if not quantity.

Of course, there is also a possibility that the abstracts were never converted to full-text articles and the works were never formally submitted for publication. Prior studies revealed that the most frequently cited factors not to submit abstracts as full-text articles were lack of time and lack of interest.[14]

In a certain respect, the current study may be considered to have a limitation. A time-span of 4 years for both the 23rd and the 24th congresses might be regarded as insufficient for full-text articles to get published. However, in similar studies in the field of orthopedics, the mean time to publication were 17.6 (range: 1 to 56)[1] months and 15.6 (range: 7 to 56)[15] months. One study found that

Table 5
Publication rate per journal for the 24th (2014) congress.

Ranking	Journal	Overall (N,%)	SCI, SCI-E Indexing
1	Acta Orthopaedica et Traumatologica Turcica	30, %12,8	SCI-E
2	Joint Diseases and Related Surgery	12, %5	SCI-E
3	International Journal of Surgical Case Reports	11, %4,7	–
4	Turkish Journal of Trauma and Emergency Surgery	9, %3,8	SCI-E
5	European Spine Journal	7, %3	SCI-E
6	Journal of Foot and Ankle Surgery	7, %3	SCI-E
7	Acta Orthopaedica Belgica	6, %2,6	SCI-E
8	Indian Journal of Orthopaedics	6, %2,6	SCI-E
9	Archives of Orthopaedic and Trauma Surgery	5, %2,1	SCI-E
10	Bone & Joint Journal	4, %1,7	SCI
11	Hip International	4, %1,7	SCI-E
12	Journal of Pediatric Orthopaedics B	4, %1,7	SCI-E
13	International Orthopaedics	4, %1,7	SCI-E
14	Journal of Orthopaedic Surgery and Research	4, %1,7	SCI-E
15	Case Reports in Orthopedics	4, %1,7	–
16	Knee Surgery, Sports Traumatology, Arthroscopy	3, %1,3	SCI
17	Spine	3, %1,3	SCI
18	The Journal of Hand Surgery	3, %1,3	SCI-E
19	Journal of the American Podiatric Medical Association	3, %1,3	SCI-E
20	Injury	3, %1,3	SCI-E
21	Acta Ortopedica Brasileira	3, %1,3	SCI-E
22	Journal of Orthopaedic Science	3, %1,3	SCI-E
23	Balkan Medical Journal	3, %1,3	SCI-E
24	Journal of Craniovertebral Junction & Spine	3, %1,3	–
25	European Journal of Orthopaedic Surgery & Traumatology	3, %1,3	–
26	Journal of Orthopaedics	3, %1,3	–
27	BMJ Case Reports	3, %1,3	–
28	Annals of Medicine and Surgery	3, %1,3	–
29	Turkish Journal of Medical Sciences	3, %1,3	SCI-E
30	Clinical Orthopaedics and Related Research	2, %0,85	SCI
31	Journal of Hand Surgery - European Volume	2, %0,85	SCI
32	Journal of Shoulder and Elbow Surgery	2, %0,85	SCI
33	Biomedical Materials	2, %0,85	SCI-E
34	The Journal of Arthroplasty	2, %0,85	SCI-E
35	Journal of Orthopaedic Surgery	2, %0,85	SCI-E
36	International Journal of Surgery	2, %0,85	SCI-E
37	Asian Spine Journal	2, %0,85	–
38	Journal of Clinical Orthopaedics and Trauma	2, %0,85	–
39	Spine Deformity	2, %0,85	–
40	Pan African Medical Journal	2, %0,85	–
41	Journal of Pediatric Orthopaedics	2, %0,85	SCI-E
42	Journal of Orthopaedic Trauma	1, %0,43	SCI
43	Proceedings of the Institution of Mechanical Engineers Part H	1, %0,43	SCI
44	Rheumatology International	1, %0,43	SCI
45	Journal of Orthopaedic Research	1, %0,43	SCI
46	Foot & Ankle International	1, %0,43	SCI-E
47	International Journal of Shoulder Surgery	1, %0,43	SCI-E
48	Knee	1, %0,43	SCI-E
49	Journal of Children's Orthopaedics	1, %0,43	SCI-E
50	Orthopedics	1, %0,43	SCI-E
51	Journal of Spinal Disorders & Techniques	1, %0,43	SCI-E
52	Journal of Bone and Joint Surgery	1, %0,43	SCI
53	Foot and Ankle Surgery	1, %0,43	SCI-E
54	Acta Chirurgiae Orthopaedicae Traumatologiae Cechoslovaca	1, %0,43	SCI-E
55	Applied Bionics and Biomechanics	1, %0,43	SCI-E
56	European Journal of Trauma and Emergency Surgery	1, %0,43	SCI-E
57	The International Journal of Medical Robotics and Computer Assisted Surgery	1, %0,43	SCI-E
58	Journal of Manipulative and Physiological Therapeutics	1, %0,43	SCI-E
59	Journal of Ultrasound in Medicine	1, %0,43	SCI
60	Nigerian Journal of Clinical Practice	1, %0,43	SCI-E
61	Singapore Medical Journal	1, %0,43	SCI-E
62	World Journal of Surgical Oncology	1, %0,43	SCI-E
63	Canadian Journal of Surgery	1, %0,43	SCI
64	Saudi Medical Journal	1, %0,43	SCI-E
65	Nuclear Medicine Communications	1, %0,43	SCI-E
66	Surgical and Radiologic Anatomy	1, %0,43	SCI-E
67	Annals of Plastic Surgery	1, %0,43	SCI
68	Journal of Back and Musculoskeletal Rehabilitation	1, %0,43	SCI-E
69	Journal of Pain Research	1, %0,43	SCI-E
70	Brazilian Journal of Anesthesiology	1, %0,43	SCI-E
71	Journal of Wrist Surgery	1, %0,43	–
72	Journal of Hand and Microsurgery	1, %0,43	–
73	Clinics in Orthopedic Surgery	1, %0,43	–
74	Journal of Orthopaedic Case Reports	1, %0,43	–

(*continued on next page*)

Table 5 (*continued*)

Ranking	Journal	Overall (N,%)	SCI, SCI-E Indexing
75	Scientific World Journal	1, %0,43	–
76	Surgical Technology International	1, %0,43	–
77	SICOT Journal	1, %0,43	–
78	The Archieves of Bone Joint Surgery	1, %0,43	–
79	Iranian Red Crescent Medical Journal	1, %0,43	SCI-E
80	Medicine	1, %0,43	SCI
81	Autopsy and Case Reports	1, %0,43	–
82	Trauma Monthly	1, %0,43	–
83	Tropical Doctor	1, %0,43	SCI-E
84	World Journal of Orthopedics	1, %0,43	–
85	The Open Orthopaedic Journal	1, %0,43	–
86	Journal of Royal Society of Medicine Open	1, %0,43	–
87	Journal of Surgery	1, %0,43	–
88	Advances in Orthopedics	1, %0,43	–
89	Chinese Journal of Traumatology	1, %0,43	–
90	The Eurasian Journal of Medicine	1, %0,43	–
91	Musculoskeletal Surgery	1, %0,43	–
92	Spine Journal	1, %0,43	SCI-E

Abbreviations: SCI: Science Citation Index; SCI-e: Science Citation Index Expanded.

63% of presentations were published within the first 2 years after presentation and the total number of published presentations increased each year; however, the likelihood of publication decreased after the third year.[8] The previous study analyzing the 2007 20th congress also found that the mean time to publication was 14.9 (range: −33 to 55) months and 73.9% of the presentations were published within the first 2 years.[2]

Another limitation might be the fact that some publications sometimes appear late on PubMed. As a result, although we do not believe that this happened in a large scale, it was possible to miss some of the recently published studies especially from the most recent years as *Epub ahead of print* on PubMed.

However, these are old facts and a paradigm shift in scientific publication has emerged since then. First of all, the online submission and online peer-review processes have significantly accelerated the average time from submission to first decision between 3 to 6 weeks. Secondly, with open-access on-line journals this period is usually shorter and the average time between acceptance and publication is usually around 30 days. Consequently, a time-span of 3 years would give a quite conclusive idea about the publication rates of meeting presentations. Therefore, it can be assumed that a long wait will not significantly change the publication rate.

Conclusions

The publication rates of meeting abstracts are the main determinants to measure scientific meetings' impact on their field.[3] The 29.5% abstract-to-publication rate from the 20th National Turkish Orthopedics and Traumatology Congress (2007) was low.[2] However, 28% from the 23rd (2013) and 24.9% from the 24th (2014) congresses were even lower. Although statistical analysis showed that there is no significant difference between the 20th and the 23rd congresses. 28% publication rate was still very low. Since the quality of a presentation is related to its subsequent publication in a peer-reviewed journal, these figures clearly reflect the low quality of the abstracts. Furthermore, the abundance of case reports with no assigned level of evidence, being published in the journals that are not indexed by SCI or SCI-E, and/or asking article processing charges lower the overall quality even more. In order to reach a satisfactory level of abstract-to-publication rate, abstracts submitted to National Turkish Orthopedics and Traumatology Congresses should undergo more rigorous peer-review and more demanding guidelines for acceptance should be adopted.

Conflicts of interest

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References

1. Bhandari M, Devereaux PJ, Guyatt GH, et al. An observational study of orthopaedic abstracts and subsequent full-text publications. *J Bone Joint Surg Am*. 2002;84(4):615–621. https://doi.org/10.2106/00004623-200204000-00017.
2. Yalçınkaya M, Bagatur E. Fate of abstracts presented at a National Turkish Orthopedics and Traumatology Congress: publication rates and consistency of abstracts compared with their subsequent full-text publications. *Acta Orthop Traumatol Turc*. 2013;47(4):223–230. https://doi.org/10.3944/AOTT.2013.3073.
3. Daruwalla ZJ, Huq SS, Wong KL, Nee PY, Murphy DP. "Publish or perish"-presentations at annual national orthopaedic meetings and their correlation with subsequent publication. *J Orthop Surg Res*. 2015;10:58. https://doi.org/10.1186/s13018-015-0203-y.
4. XXIII. Ulusal Türk Ortopedi ve Travmatoloji Kongresi. *Acta Orthop Traumatol Turc*. 2013;47(Suppl-I):1–361.
5. XXIV. Ulusal Türk Ortopedi ve Travmatoloji Kongresi. *Acta Orthop Traumatol Turc*. 2014;48(Suppl-I):1–303.
6. Reuters Thomson. Clarivate Analytics Master Journal List. http://mjl.clarivate.com. Accessed March 10, 2018.
7. Collier T, Roadley-Battin M, Darlow C, Chant P, Hing CB, Smith TO. Analysis of conference abstract-to-publication rate in UK orthopaedic research. *BMJ Evid Based Med*. 2018;23(1):7–11. https://doi.org/10.1136/ebmed-2017-110831.
8. Donegan DJ, Kim TW, Lee GC. Publication rates of presentations at an annual meeting of the American Academy of Orthopaedic Surgeons. *Clin Orthop Relat Res*. 2010;468(5):1428–1435. https://doi.org/10.1007/s11999-009-1171-5.
9. Frost C, Rubery PT, Mesfin A. The publication rate of presentations at two international spine meetings: Scoliosis Research Society and international meeting of advanced spinal techniques. *Spine Deform*. 2015;3(6):528–532. https://doi.org/10.1016/j.jspd.2015.04.009.
10. Croker JD, Bydder SA. Publication rates of abstracts presented at the Royal Australian and New Zealand College of Radiologists annual scientific meetings: any change since 2004? *J Med Imaging Radiat Oncol*. 2018;62(4):568–572. https://doi.org/10.1111/1754-9485.12721.
11. Kumaragurupari R, Sengupta S, Bhandari S. Publication rates from the All India Ophthalmic Conference 2010 compared to 2000: are we improving? *Indian J Ophthalmol*. 2016;64(10):722–726. https://doi.org/10.4103/0301-4738.195007.
12. Yoon RS, Lloyd EW, McGrory B, Bal BS, Macaulay W. Studies presented in poster format at the annual meetings of the American Association of Hip and Knee Surgeons: how do they fare in the peer review process? *J Arthroplasty*. 2007;22(6 Suppl 2):17–20. https://doi.org/10.1016/j.arth.2007.03.010.
13. Bagatur AE, Yalçınkaya M. How to write a case report? or...not write at all? *Eklem Hastalik Cerrahisi*. 2014;25(3):165–167. https://doi.org/10.5606/ehc.2014.35.
14. Komagamine J, Kobayashi M. Publication rate of abstracts presented at Japan Geriatrics Society Annual Meetings (2011–2012): a retrospective observational study. *BMC Res Notes*. 2018;11(1):36. https://doi.org/10.1186/s13104-018-3156-5.
15. Guryel E, Durrant AW, Alakeson R, Ricketts DM. From presentation to publication: the natural history of orthopaedic abstracts in the United Kingdom. *Postgrad Med J*. 2006;82(963):70–72. https://doi.org/10.1136/pgmj.2005.033738.