



## The publication rate of oral presentations presented in national congresses of Turkish Society of Cardiovascular Surgery

*Türk Kalp ve Damar Cerrahisi Derneği ulusal kongrelerinde sunulan sözlü bildirilerin yayımlanma oranı*

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### ABSTRACT

**Background:** This study aims to investigate the literature contribution of oral presentations presented in the largest national congresses of the Turkish Society of Cardiovascular Surgery.

**Methods:** A total of 675 orally presented abstracts during biannually organized 12<sup>th</sup>, 13<sup>th</sup>, and 14<sup>th</sup> congresses were reviewed using the PubMed and Google Scholar databases in May 2018. Abstracts were searched for institutions where they were submitted, publication status in scientific journals, type of peer-reviewed journal, and publication year.

**Results:** Of a total of 675 oral presentations, 69.1% were clinical studies, 18.8% were case reports, and 12.1% were experimental researches. Of all accepted abstracts, 47.3% were from university hospitals, 36.1% were from training and research hospitals, and 16.6% were from other multi-center institutions. A total of 279 (41.3%) abstracts were published in a scientific journal. There was a significant difference among the institutions in terms of the rate of publication ( $p=0.04$ ), and the university hospitals had the highest rate. The mean time from presentation to publication in a scientific journal was  $16.7\pm 9.1$  (range, 4 to 60) months.

**Conclusion:** The rate of published abstracts from the last three congresses of the Turkish Society of Cardiovascular Surgery is higher compared to the literature results reporting national congresses of other specialties, but is lower than the international congresses. We believe that this ratio should be increased to reach the same level as international reports and the methods to encourage researchers to publish should be developed.

**Keywords:** Google Scholar, oral presentation, publication rate, PubMed, scientific congress.

### ÖZ

**Amaç:** Bu çalışmada Türk Kalp ve Damar Cerrahisi Derneği'nin en geniş katılımı ulusal kongrelerinde sunulan sözlü bildirilerin literatüre katkısı araştırıldı.

**Çalışma planı:** Mayıs 2018 tarihinde iki yılda bir düzenlenen 12, 13. ve 14. kongrelerde sözlü olarak sunulan toplam 675 bildiri PubMed ve Google Akademik veri tabanlarında tarandı. Bildiriler gönderildikleri kurum, bilimsel dergilerde yayımlanma durumu, hakemli derginin türü ve yayımlanma yılı açısından incelendi.

**Bulgular:** 675 sözlü bildirinin, %69.1'i klinik çalışma, %18.8'i olgu sunumu ve %12.1'i deneysel araştırma idi. Kabul edilen bildirilerin %47.3'ü üniversite hastanelerinden, %36.1'i eğitim ve araştırma hastanelerinden ve %16.6'sı diğer karma kurumlardan gönderildi. Bildirilerin toplam 279'u (%41.3) makale olarak bilimsel bir dergide yayımlandı. Yayımlanma oranı açısından kurumlar arasında anlamlı bir fark olmakla birlikte ( $p=0.04$ ), üniversite hastaneleri en yüksek orana sahipti. Bildirilerin bilimsel bir dergide yayımlanma süresi ortalama  $16.7\pm 9.1$  (dağılım, 4-60) ay idi.

**Sonuç:** Türk Kalp ve Damar Cerrahisi Derneği'nin son üç kongresinde sunulan bildirilerin yayına dönüşme oranı, diğer uzmanlık alanlarına ait ulusal kongrelerinde bildirilen literatür sonuçlarına göre daha yüksek, ancak uluslararası kongrelere kıyasla daha düşüktür. Uluslararası bildiriler ile aynı düzeye ulaşmak için bu oranın artırılması ve araştırmacıları yayına teşvik edici yöntemlerin geliştirilmesi gerektiğine inanmaktayız.

**Anahtar sözcükler:** Google Akademik, sözlü bildiri, yayımlanma oranı, PubMed, bilimsel kongre.

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Scientific presentation of a certain research at conferences can be either in poster or oral, and sought for a rapid conveying of the information to large masses of targeted professionals, exchange their views on their studies, cooperate, encourages further research by young researchers, and is considered an important connection between accomplishment of a research protocol and publication of the completed work.<sup>[1,2]</sup>

Publishing a scientific article is a time-consuming process and only some manuscripts end up being published in journals indexed in major search databases. A well-accepted indicator of the quality of the research which is presented is its success to be published in a peer-reviewed journal.<sup>[1]</sup> The publication rate of presentations has been used to assess the quality of research output in various fields of medicine.<sup>[1-3]</sup> However, there is a series of factors, other than the quality of the research, which can affect the publication rate of presentations.<sup>[3]</sup>

Studies in other medical specialties have shown that the publication rate of accepted congress abstracts varies from 11 to 78%, typically with a mean of 4 to 50<sup>[2-6]</sup> depending on the method, subspecialty, author experience, and findings of the relevant abstracts. In Turkey, studies regarding radiology, dermatology, anesthesiology, rheumatology, and thoracic surgery congresses report publication rates of the abstracts presented at the national congresses range between 9.4 and 42.3%.<sup>[7-9]</sup> However, there are no data available for the publication rate of abstracts presented in cardiovascular surgery in Turkey.

The Turkish Society of Cardiovascular Surgery (TSCS) is the cardiovascular surgery professional organization having the highest number of members in Turkey. National TSCS congresses (TSCSC) are the cardiovascular congresses held biannually and having the highest level of participation in our country. The scientific committee of the TSCSC selects abstracts to be presented at each biannual conference after the review of submissions.

In the present study, we aimed to investigate the literature contribution of oral presentations presented in the largest national congresses of the TSCS and to evaluate factors affecting publication rates.

## PATIENTS AND METHODS

The Institutional Review Board approval was not required, as only publicly available data were used in the study. Since previous studies concluded that 20 months was sufficient for drawing a conclusion on publication rate,<sup>[5-10]</sup> we included the national

congresses of 2012, 2014, and 2016 (12<sup>th</sup>, 13<sup>th</sup>, and 14<sup>th</sup> TSCSCs) in our study to the cut-off date of May 2018. We obtained the presented abstracts from the official webpage of the journal of TSCS ([http://tgkdc.dergisi.org/special\\_issues.php](http://tgkdc.dergisi.org/special_issues.php)). After obtaining the oral presentation abstracts, we categorized them according to study type (clinical research, case reports, and experimental studies).

The presentations were evaluated from the aspects of the institution (university hospital, training and research hospital, or others), type of research (clinic, experimental, case study), published in scientific journal. All presentations published were analyzed in terms of type of the peer-reviewed journal (Science Citation Index-Expanded [SCIE], international journals out of the scope of SCIE, national journals), publishing year, duration between presentation and publishing, number of citations, changes in the order of authors, and the changes in the title.

We used the electronic search database PubMed (National Library of Medicine, Bethesda, MD, USA)<sup>[10]</sup> and Google Scholar (Google Inc., Mountain View, CA, USA)<sup>[11]</sup> to analyze whether an abstract was published as a full-text in a scientific journal. We performed the initial search on Google Scholar to evaluate the abstracts, as it has a broader coverage for scientific journals.<sup>[12]</sup> After finding the published abstract, we cross-checked the full title of the article on PubMed and confirmed the final publication. If we were unable to verify an article on PubMed, we investigated whether the journal was indexed in the Master Journal List (Thomson Reuters, NY, USA)<sup>[13]</sup> or TUBITAK ULAKBIM (Cahit Arf Bilgi Merkezi, Ankara, Turkey)<sup>[14]</sup> databases.

For the search algorithm, we typed the title, combination names of all the authors (starting from the first author), and keywords were searched separately in Turkish and English languages. We categorized the time of publication as the timeline between the congress and the final publication of articles in months. We identified the name of the journals where the articles were published. The presented abstract and the final published article were compared to evaluate any incompatibilities. Minor changes including the title of the study, the number of authors, the first author name, and names of other authors were noted. It was only deemed to be published, if the article contained at least one common hypothesis, study design or conclusion and had at least one common author. If matched articles were found, time to online publication date and actual journal publication date were recorded separately in months. In the studies without an online

**Table 1. Publication rate of abstracts according to congress year**

Congress year	Publication				Total	
	Published		Not published			
	n	%	n	%	n	%
2012 (12 <sup>th</sup> )	75	46	88	54	163	100.0
2014 (13 <sup>th</sup> )	131	40.9	189	59.1	320	100.0
2016 (14 <sup>th</sup> )	73	38.1	119	62	192	100.0
Total	279	41.2	396	58.8	675	100.0

*p* value: 0.3.

publication date, it was assumed to be same as the journal publication date.

### Statistical analysis

Statistical analysis was performed using IBM SPSS version 21.0 software (IBM Corp., Armonk, NY, USA). Descriptive data were expressed in mean ± standard deviation (SD), median (min-max) values or number and frequency. Comparison of publication rates per year, presentation types and study topics were evaluated using the chi-square analysis. We used the Mann-Whitney U test to compare the mean publication time. We used the Kruskal-Wallis test to compare the mean publication time of the articles. A *p* value of <0.05 was considered statistically significant with 95% confidence interval (CI).

### RESULTS

A total of 675 accepted abstracts for oral presentation at 2012, 2014, and 2016 TSCSCs were included. In 2012, 2014, and 2016, the number of presentations was 163 (24.14%), 320 (47.4%), and 192 (28.46%), respectively. Of oral presentations, 279 (41.3%) were published in various medical journals. The distribution

of publication rate according to years was found to be 75/163 (46%) in 2012, 131/320 (40.9%) in 2014, and 73/192 (38.1%) in 2016. There was no statistically significant difference between the publishing rates of presentations by the years (*p*=0.3) (Table 1).

Of 675 oral presentations, 466 (69%) were clinical researches, 127 (18.8%) were case studies, and 82 (12.1%) were experimental studies. When clinical researches were compared according to their prospective and retrospective design, 258 (55.4%) of the clinical studies were retrospective studies, whereas 208 (44.6%) were prospective in nature, and the rate of publication was higher in prospective clinical studies than retrospective studies, although there was no significant difference between the two groups (*p*=0.06). The publication rate was analyzed regarding the type of abstract, and experimental abstracts had the highest rate (57.3%) of being published, while case reports had the lowest publication rate (13.4%). Publication rates according to study type were statistically significantly different (*p*<0.01).

When the accepted oral presentations were analyzed from the aspects of submitter's institution,

**Table 2. Publication rate of abstracts and institutions submitted**

Institution	Publication				Total	
	Published		Not published			
	n	%	n	%	n	%
University hospital	154	48.3	165	51.7	319	100.0
Training and research hospital	96	39.3	148	60.7	244	100.0
Multicentered-other	29	25.9	83	74.1	112	100.0
Total	279	41.3	396	58.7	675	100.0

*P* value for the comparison between training research hospital and university hospital: 0.04 and *p* value for the comparison between university and others: 0.01.

**Table 3. Publication time of oral abstracts after presentation and published journal indexes**

Year	Publication time	Journal index		
	Mean±SD (m)	n	Index	%
2012	21.1±12.4	28	SCI-E	32.9
		34	IPRJ	40.0
		23	NJ	27.1
2014	16.5±7.7	54	SCI-E	35.7
		64	IPRJ	42.4
		33	NJ	21.9
2016	12.5±3.9	15	SCI-e	34.8
		12	IPRJ	27.9
		16	NJ	37.2
Total	16.7±9.1	135	SCI-E	48.5
		76	IPRJ	27.2
		68	NJ	24.3

p: 0.08; m: month; SCI-E: Science Citation Index-Expanded; IPRJ: International Peer Review Journal; NJ: National Journal indexed in ULAKBIM.

319 (47.3%) of presentations were submitted from university hospitals, 244 (36.1%) were from training and research hospitals, and 112 (16.6%) were submitted by the authors from different institutions. According to the type of institution, abstracts from the universities had the highest ratio of publication (48.3%), followed by reports from training and research hospitals (39.3%) and other multi-center institutions (25.9%), respectively. There was a statistically significant difference in the rate of publication of presentations among the institutions ( $p < 0.05$ ) (Table 2).

Of the published articles, 135 (48.5%) were published in journals indexed by SCIE, 76 (27.2%) in an international journal not indexed by SCIE, and 68 (24.3%) in a national journal (Table 3). The preferences of authors for the journals indexed in SCIE

and focusing on cardiac surgery, vascular surgery, and intensive care journals.

The mean time from the date of congress and publication date was 16.7±9.1 (range, 4 to 60) months. This duration was 21.1±12.4 months, 16.5±7.7 months, and 12.5±3.8 months for the years of 2012, 2014, and 2016 respectively (Table 3). When university hospitals were compared to training and research hospitals, there was no statistical difference in the publication durations ( $p = 0.08$ ).

In the publishing process of presented texts, the parameters of change were determined to be in the title change, change in number and order of authors, and the change of the first author and the rates of change were noted. A total of 49.7% of the published presentations had the list of the authors altered, irrespective of the order. A total of 101 (36.4%) reports had additional co-workers. Additionally, 6.8% of the published abstracts changed the name of the first author. Title was the major parameter with the highest rate of change in 12.3% of related changes (Table 4).

**Table 4. Changes in full text publication of the presentation**

Changed component	n	%
Change in any component	138/279	49.7
Title	34/279	12.3
Number of authors	101/279	36.4
Order of authorship	19/279	6.8
Number of study subjects	27/279	9.9
Quantitative results	5/279	1.7
Conclusions	12/279	4

## DISCUSSION

Despite the fact that there have been extensive efforts in other subspecialties, our study is the first evaluation of publication rates of abstracts presented in a national congress in cardiovascular surgery in Turkey. We found that 41.3% of oral presentations during the consecutive 2012, 2014, and 2016 national

congresses of the TSCS were subsequently published in peer-reviewed journals.

As in other scientific meetings, acceptance of abstracts submitted to the TSCS national congresses is directed by a judicious reviewing and scoring method, and reports with the highest scores are assigned as oral presentations. Abstracts with lower scores are accepted as poster presentations, and those with the lowest scores are rejected. It is usually recognized that abstracts selected as oral presentations are expected of better quality according to those accepted as poster presentations. Consequently, oral presentations are likely to be published more smoothly and frequent.<sup>[15]</sup> In our study, we evaluated oral presentations presented in the TSCSCs held between 2012 and 2016 in detail, and to investigate their contribution to the literature. Although the high rate publication supports the ability of the committee in selecting high-quality reports, there are some abstracts that may be underestimated by the same reviewers, and it was the one limitation of our study.

The time between congress and publication (mean 16.7 months) was shorter than in comparable reports (range, 15.6 to 31 months). According to the multidisciplinary Cochrane review, the mean time to publication was 18.4 months.<sup>[16]</sup> Depending on peer-review times in different journals may impact this result.

The literature discloses that basic research studies are more prone to be published as articles.<sup>[1,4]</sup> The primary reason for this disparity is that clinical studies, apart from randomized-controlled trials, have different study designs (as in case reports) that are often not published.<sup>[8]</sup> According to our data, the quantitative superiority and increasing tendency of experimental studies, which have a higher publishing rate than clinical studies do, can be explained with the quality of experimental procedure and data reporting.

According to the allocation of abstracts regarding the submitted institutions, the highest ratio was from the university hospitals with a statistically significant difference among the institution types. Additionally, some of the researches from state hospitals might have been sent by physicians who started their compulsory service in state hospitals after training; their studies should be originated from their residencies; and it can be assumed that universities even have more contribution to this rate.<sup>[9]</sup> The publication rate of presentations from training and research hospitals was lower, and this could be regarding various reasons, as less time assignation for academic and research

studies compared to universities, distinction in training methods, and retarded supervision of the publication course. Also, it should be kept in mind that the accomplishment of new Health Sciences University and direct interaction of training and research hospitals with this newer settlement may bring positive impact on research activities to physicians and residents who are members of these hospitals, consequently, increasing their publication rates as expected.

The methodology used in this study, involving PubMed and Google Scholar search, seems like those used in corresponding researches.<sup>[5-9,15,16]</sup> Numerous investigations do not define the search technique methodology in detailed and do not distinguish between the several factors. Nonetheless, we did not reach the authors of non-published abstracts and we were unable to determine an accurate reason for not submitting their work for publication. Although the time interval from abstract presentation to publication in this study was comparatively short, it is the fact that more than half of the reports were not published. The most common reason for not publishing the research is limited or lack of time of surgeons or a low priority for the authors. This reason is also valid for the oral presentations in the national TSCSC.

According to our study results, new author names were added in 70.7% of the publications. Inconsistency in the authors stated for congress abstracts and the corresponding name in the papers is a well-known problem. Adding new authors often leads from another research when finishing the study and final manuscript. Comparable researches showed incompatibilities in the author list in the range of 16.1 to 39.8%, although the identity of the authorship changes is not always elucidated.<sup>[5-8,17-20]</sup> Several studies have shown lead author changes in 19 to 29% of reports,<sup>[9]</sup> added authors in 18.2 to 44%, and removing authors in 6.3 to 29%.<sup>[7-17]</sup> According to our study, the name of the first author was changed in 6.8% of the published abstracts. The parameter with the highest rate of change was determined to be the title with 12.3% change (Table 4).

The publishing rates of oral presentations presented in TSCSCs were higher compared to the publishing rates of other disciplines and they showed similarity with the international data. The most important finding in the present study is that 41.3% of oral presentations presented in TSCSCs were published in a peer-reviewed journal. This finding is consistent with the Cochrane review of Scherer *et al.*<sup>[16]</sup> published in 2007 examining different disciplines form medicine. The similarity of this rate with the literature suggests that oral presentations presented in TSCSCs were evaluated

carefully in accordance with the international selection criteria. In addition, the majority of cardiovascular surgery journals are indexed in the SCIE in which the abstracts presented in the TSCSC are published, indicating another quantitative data for scientific quality of these studies.

Low publication rates lead from authors failing to write the full-text manuscript or rejection of the manuscript by a scientific journal during peer-review. Failure to write the manuscript could be regarding too many reasons involving time restraints, the need for extra-scheduled and long-work hours to achieve a full-text publication, or a simple lack of motivation to success publication.<sup>[18-20]</sup> The scientific societies should prioritize the strategies toward increasing the publishing rate of presentations presented in congresses. The strategy of the European Association for Cardio-Thoracic Surgery (EACTS) and Society for Thoracic Surgery (STS) are good examples.<sup>[8]</sup> There is an option for rapidly evaluating the abstracts of presentations, which are accepted for oral presentation, and the final date of submission to their official journal is determined before the congress. Therefore, the authors might have confidence and become motivated for going ahead to fulfill the manuscript.

Another recommendation by Tyagi et al.<sup>[19]</sup> to increase publication rate of congress' abstracts involve the insertion of formal training in research methodology and bioethics, as well as scientific research writing during graduate and post-graduate training. Faculty members can be accommodated structured time for research differently from academic, clinical, and executive responsibilities. A better base or back up for research such as free access to journals and secretarial assistance can be also made available. Eventually, it should be noted that the authors' motivation should be increased to increase the publication of the researches derived from the oral presentations.

This study has also certain limitations. As stated in the methodology, the presentations were searched in Google Scholar and PubMed databases. The percentages might have been underestimated, as the articles published and indexed in different databases were unable to be accessed. The poster presentations presented in TSCSCs were not included in the study. Since there are few studies on this subject in the field of cardiovascular surgery, a healthy comparison with other disciplines was unable to be made.

In conclusion, the rate of published abstracts from the last three congresses of the Turkish Society of

Cardiovascular Surgery is higher compared to the literature results reporting national congresses of other specialties, but is lower than the international congresses. We believe that this ratio should be increased to reach the same level as international reports and the methods to encourage researchers to publish should be developed. In addition, future studies should examine the factors related with non-publishing the presentations presented in future cardiovascular surgery congresses, as well as discussing the potential interventions to improve the rate of publishing. The surveys to be conducted on this subject would shed light on the future studies.

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