A descriptive analysis of abstracts presented at the Turkish National Cardiology Congresses between 2011 and 2015

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Abstract

Objective: The aim of this study was to investigate the scientific publication performance of the abstracts presented at the annual Turkish National Cardiology Congress (TNCC) between 2011 and 2015 and to analyze the variables associated with publication.

Methods: The accepted abstracts of five congresses (2011-2015) were screened using the title and names of all authors in English via PubMed and Google Scholar databases. The parameters recorded included presentation type, publication rate, time to publication, affiliated institution, journal name and average impact factor, and average citation number per year for each publication.

Results: A total of 2897 abstracts (966 oral presentations and 1931 poster presentations) were accepted in five meetings and 23.4% (n=680) of these were published in national or international peer-reviewed journals. Of the published articles, 32.6% (n=222) were oral presentations and 67.4% (n=458) were poster presentations. The mean time to publication of oral and poster presentations were similar [9 (0-58) vs. 8 (0-62) months, p = 0.150]. According to the type of institution, university hospitals had the highest ratio of publication (58.6%) (p<0.001). All publications were published in 148 journals from 37 different countries. The average citation number of publications was significantly higher than the average impact factor of the journals [1.4 (0-30.1) vs. 1.29 (0.11-19.8), p<0.001].

Conclusion: Compared with other national-based literature in other medical fields, the overall publication rate was found to be similar while the time to publication was shorter. The significant difference between citation number and impact factor may be interpreted as positive indicator in terms of high level scientific value for cardiology publications presented in the TNCC. *(Anatol J Cardiol 2018; 20: 16-20)*

Keywords: citation, National Cardiology Congress, publication rate

Introduction

Scientific congresses are one of the most important meetings for participants to share their knowledge and experience with other colleagues. The collaborative interactions between researchers enable the maturation of presentations that subsequently facilitates an increase in the publication rates in scientific journals. The publication rate of congress presentations in scientific peer-reviewed journals identifies the scientific level of studies and the meeting itself; therefore, the main purpose for all researchers is to publish their proceedings as a full-text article (1).

In Turkey, the publication rates of congress presentations in various medical fields vary between 9.4% and 29.5%, and this value for international congresses ranges between 40% and 50% (2-11). The subsequent publication rate of accepted abstracts is 38% at the European Society of Cardiology (ESC) Congress (12). To the best of our knowledge, no similar study has been reported related to the national congresses or scientific meetings in the field of cardiology on this issue.

The Turkish National Cardiology Congress (TNCC) has been organized annually since 1985 by Turkish Society of Cardiology and is one of the most leading national meetings with a high level of scientific reputation. In this study, we aimed to identify the scientific publication performance of the abstracts presented at the TNCC between 2011 and 2015 and to analyze a range of parameters associated with the presentations that have been converted into publications.

Methods

The abstracts of five congresses held in 2011–2015 were obtained using the online supplements of the Archives of the Turkish Society of Cardiology (http://www.archivestsc.com/) and the Anatolian Journal of Cardiology (http://www.anakarder.com/).

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For 2013, the online supplement of the Journal of the American College of Cardiology that contains the selected abstracts of the 29th TNCC was also screened (http://www.onlinejacc.org/). To identify whether an abstract had been published, first, the complete abstract was entered as a search term in PubMed (National Library of Medicine, Bethesda, Maryland, USA) and Google Scholar (Google Inc., Mountain View, California, USA) (13, 14). If no publication was found, then the complete list of authors was separately entered in the same databases. When a publication was found to match with the presentation, the publication was reviewed to confirm whether its content was consistent with the abstract. Data collection was started on January 5, 2018, and completed on January 15, 2018. Information on the type and topic of the presentation, length of time between presentation and publication, the details such as any change in the names of the first and co-authors, affiliated institutions, the name and impact factor of the journals was recorded. The type of institution of each article was classified into five groups, namely university, training and research, state, private hospitals, and multi-center studies. Military hospitals were included under training and research hospitals. The impact factors of the journal of publications were assessed for the year of publication using the "Journal Citation Report" (Thomson Reuters, New York, USA) database (15). The average citation number of each publication per year was calculated according to the following formula: [total citation number beginning from the time of publication/ (2017-publication year)] using the service of Institute of Scientific Information Web of Science (Thomson Reuters) (16). The TNCC is held in October every year; therefore, the search period from the last congress (2015) validated in this study extended for 28 months (October 2015-January 2018) similar to previous studies (17).

Statistical analysis

The Statistical Package for the Social Sciences software (SPSS, version 21, SPSS Inc, Chicago, IL, USA) was used for all statistical calculations. All data are presented as median with interquartile range (IQR) for continuous variables and as percentage for categorical variables. The Kolmogorov-Smirnov test was used to identify the distribution of variables normally. The Chi-square test was used to compare categorical variables, whereas the Mann-Whitney U test and the Kruskal-Wallis test were used to compare continuous variables. Statistical significance was considered at $p<0.05$ using a confidence interval of 95%.

Results

A total of 2897 abstracts were accepted at the TNCC between 2011 and 2015. Of these presentations, 680 (23.4%) were published in national or international peer-reviewed journals (Fig. 1). Among these, 131 (19.3%) had been published prior to the congresses. Regarding the type of presentations, 222 (22.9%) of the oral presentations and 458 (23.7%) of the poster presentations were converted into full-text publications. Of the published presentations, original research articles were 84.3%. The review of published presentations in terms of institution demonstrated that university hospitals had the highest ratio of publication (58.6%), followed by presentations from training and research hospitals (27.9%), multi-centered studies (12.6%), state hospitals (0.6%), and private hospitals (0.15%) ($p<0.001$). No statistical difference was observed with respect to the publication time between oral and poster presentations [9 (0-58) vs. 8 (0-62) months, p=0.150]. The time to publication was also similar between the institutions (p=0.136) (Table 1). In 280 (41.1%) publications, there was a change in the names of authors compared with that in the congress presentations and 14.8% of these were first author alterations. Of all publications published in 148 different international peer-reviewed journals from 37 countries, 33.2% were published in five journals [the Anatolian Journal of Cardiology, Archives of the Turkish Society of Cardiology, Angiology, Kardiologia Polska (Polish Heart Journal), Cardiology Journal] (Table 2). The greatest number of publications (71.6%) has been accepted in cardiology journals, and no significant difference was found concerning the publication times between cardiology and non-cardiology journals [8 (0-62) vs. 8 (0-52) months, p=0.150]. Five-hundred and eighty three articles (85.7%) have been published in journals cited by the Science Citation Index (SCI) and Science Citation Index Expanded (SCI-E). The distribution of publications revealed that the subjects related to invasive cardiology (36.3%) and cardiac imaging (20.5%) had the highest ratio in terms of con-

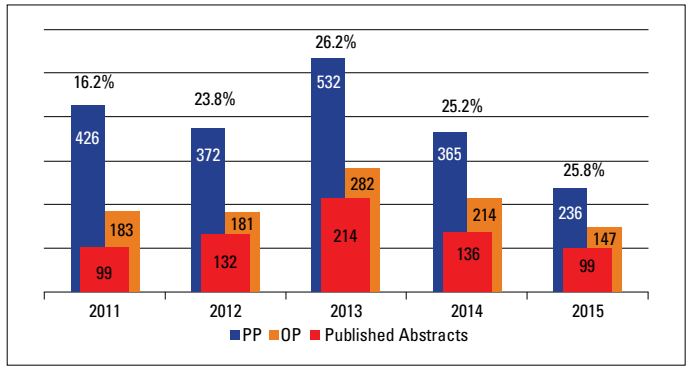

Figure 1. Percentages of abstracts published per year.
OP - oral presentation; PP - poster presentation

Table 1. Publication times according to the institutions

Institution type	Publication time [months]	*P* value (*)
		0.136
University hospitals	9.9 [0-52]	
Training and research hospitals	10.5 [0-58]	
State hospitals	13.5 [0-29]	
Multi-center studies	10.3 [0-62]	

(*) Kruskal–Wallis test was used

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Table 2. Distribution of the most popular peer-reviewed journals according to the number of presentations accepted for publication

Journal name	Publication (n) (%)	Country	Impact factor (*)	Indexing (**)
The Anatolian Journal of Cardiology	75 (11)	Turkey	1.190	SCI-E
Archives of the Turkish Society of Cardiology	68 (10)	Turkey	0.406	ESCI
Angiology	32 (4.7)	USA	3.085	SCI-E
Kardiologia Polska (Polish Heart Journal)	27 (3.9)	Poland	1.341	SCI-E
Cardiology Journal	24 (3.5)	Poland	1.256	SCI-E

(*) Source: 2016 Journal Citation Reports® (Clarivate Analytics, 2017)
(**): Web of Science. ESCI - Emerging Sources Citation Index; SCI-E - Science Citation Index Expanded; USA - United States of America

version to manuscript. The average citation number of publications was significantly higher than the average impact factor of journals [1.4 (0-30.1) vs. 1.29 (0.11-19.8), p<0.001].

Discussion

Our study is the first investigation that identified the factors associated with the publication process of the presentations accepted at the TNCC. In this study, we found that approximately one of four abstracts presented at the TNCC in 2011-2015 was published as a peer-reviewed full-text article within the subsequent years. Although the level of publication rate was lower compared with that of the international cardiology congresses, the average citation number of each publication was higher than the impact factor of journals, which may be interpreted as a high-impact scientific performance of the TNCC.

The publication of abstracts presented at scientific congresses is an important component of knowledge distribution. However, most studies presented at national or international scientific congresses do not get published. Fosbøl et al. (18) have reported that 34.5% of the presented abstracts at the American Heart Association (AHA), 29.5% presented at the American College of Cardiology, and 27% presented at the ESC were published within 2 years of these meetings. In Turkey, similar studies in various clinical sciences have reported a publication rate range between 5.7% (for general surgery) and 29.5% (for orthopedics) (19). According to these findings, the publication rate of the TNCC was similar with that of other national congresses but lower than that of the meetings held in international platforms. Several reasons have been reported for the failure of converting the presentations into publications. The lack of time for academic studies, not having required assignment, the presence of previous publications with similar design and results, difficulties in writing in a foreign language, and inaccuracies in the statistical methodologies have been reported as the main reasons for the decrease in the publication rates (20-23).

In the literature, a discrepancy has been reported between studies in terms of the publication rates of oral and poster presentations. It is presumed that well-designed studies with more scientific impact are accepted as oral presentations by the grading committees of meetings and that the publication probability of oral presentations would be significantly higher than that of poster presentations. However, several studies have reported no significant differences in this regard, which is consistent with our results (24-28). The lack of difference between the publication rates of oral and poster presentations in our national cardiology meetings can be explained by the preference of investigators and the limited number of oral sessions.

In our study, the median publication time of abstracts presented at the TNCC was comparable with that in the other international cardiology meetings, whereas it was shorter than that in the other national congresses (29, 30). When the submission and evaluation processes of peer-reviewed journals were taken into consideration, this result may be interpreted as the investigators have promptly sent their studies after the TNCC. Additionally, this finding may indicate the competency of researchers in terms of journal selection properly and the high levels of abstracts scientifically.

In our study, with regard to the distribution of institutions, the highest contribution was derived from university hospitals. Onat (31) has reported that three-quarters of highly-cited publications in cardiovascular medicine has been produced in university hospitals in Turkey and concluded that the performance of university hospitals was associated with their facilities. Interestingly, although the contribution of university hospitals had the highest percentage, the comparison of the average citation number and impact factor of journals according to the institutions displayed similar results. In our study, the publication rate of presentations from training and research hospitals was relatively higher than that from the other national meetings (32). The highly specialized training and research hospitals in cardiology with very well-equipped and experienced staff members in Turkey may explain this difference.

In our study, we observed a rearrangement in the author list in approximately half of the presentations when published, and nearly one-third of this was concerned with the first author. This finding was similar with that in the other national congresses (33). It may be presumed that after the presentation at meetings, some of the studies had an improvement process, leading

to a revision in the author list. This may also be because of the decision of the senior author to support junior investigators. In contrast, the removal of an author in the publication process after presentation at a meeting is a more controversial subject. We believe that the authorship criteria for presentations should take into consideration the recommendations of the International Committee of Medical Journal Editors for the authorship of manuscripts and the reason of any change in the author list should be reported by the corresponding author of the study (34).

In recent years, whether the number of publications in international peer-reviewed journals is the most important indicator of scientific performance has remained a matter of debate (35). To evaluate the quality of publications, other parameters such as the number of citations, h-index, and number of publications in indexed journals have been developed (36). Onat (37) reviewed the qualitative and quantitative indicators of publications in the field of cardiovascular medicine in Turkey. In his review, the median impact factor value of the journals was 1.51, and according to this finding, he concluded that the contribution of Turkey to the field of cardiovascular medicine was insufficient and it was behind 15 years ago. In our study, when we compared the average citation number of publications and the impact factor of journals, we identified that the average citation number was significantly higher than the impact factor of journals. Although the contribution of medical institutions in Turkey to scientific progress in the field of cardiology has shown a disappointing performance in recent years in terms of publication and citation numbers, this finding may be interpreted as the important role of the TNCC providing a collaborative scientific platform at the national level.

Study limitations

Our study had several limitations. First, although we used the most preferred online databases such as PubMed and Google Scholar, publications indexed in other databases may have been missed. Second, in the literature, we were unable to find any similar study that has previously evaluated the publication rates of the TNCC; therefore, we compared our findings with those of other national congresses from different clinical specialties. Finally, we evaluated five consecutive congresses; therefore, a longer time interval may indicate more precise results for evaluating the publication variables of the TNCC.

Conclusion

In conclusion, we found similar publication rates between the abstracts presented at the TNCC and those presented at other national congresses of different specialties in Turkey, but the rates were relatively lower than those at international cardiology congresses. The encouragement of researchers and elimination of preclusive factors in terms of publication may improve the publication rates of the TNCC.

Conflict of interest: None declared.

Peer-review: Externally peer-reviewed.

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