



## Publication rate of abstracts presented in national congress of Turkish society of anesthesiology

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### Öz

Amaç: Bu çalışmanın amacı Türk Anesteziyoloji ve Reanimasyon Derneği (TARD)'nin 2011-2013 yılları arasında yıllık kongrelerinde sunulan bildiri özetlerinin bilimsel yayına dönüşme oranını belirlemektir. Gereç ve Yöntem: TARD'ın 2011, 2012, 2013 kongrelerinde sunulmuş ve çeşitli bağımsız değerlendirmeli dergilerde yayımlanmış bildiriler PubMed ve Google Scholar kullanılarak belirlendi. Retrospektif bir çalışma dizaynında bildiriler sözlü sunum(SS) ya da poster sunumu(PS) olarak ayrıldı ve çalışmanın türü, dizaynı, birinci yazarın ismi ve çalıştığı kurum, ortalama yayımlanma süresi ve yayımlanan dergi analiz edildi. Bulgular: Toplam 2417 bildirinin 114 tanesinin (%4,7) bilimsel tam metin makale olarak yayımlandığı tespit edildi. SS lerin yayımlanma oranı 24/187 (%12,8) iken PS'lerinki 90/2230 (%4) olarak bulundu ve aralarındaki fark istatistiksel olarak anlamlıydı ( $p<0.001$ ). Deneysel çalışmalar klinik çalışmalara ve olgu sunumlarına göre daha yüksek yayımlanma oranına sahipti. Üniversitelerin Anestezi klinikleri diğer hastanelerin kliniklerine göre daha yüksek yayın oranına sahipti. Bildiri sunumundan sonra ortalama yayımlanma süresi  $14.4\pm 11.4$  aydı. Tartışma: Bu çalışma TARD kongrelerindeki bildirilerin yayına dönüşme oranı ile ilgili ilk çalışmadır. Sonuçlarımız göstermiştir ki, TARD kongrelerindeki bildirilerin yayına dönüşme oranı %4,7 dir ve bu oran Türkiye'deki diğer klinik branşların ulusal kongrelerinde sunulan bildirilerin yayına dönüşme oranından belirgin olarak düşüktür.

### Anahtar Kelimeler

Kongre; Anestezi; Yayın; Özet; Tam Metin Makale; Pubmed; Google Akademik

### Abstract

Aim: This study aimed to determine the rate of conversion to scientific publication of abstracts presented at the annual congress of Turkish Society of Anesthesia and Reanimation (TARD) between the period of 2011-2013. Material and Method: The abstracts presented at TARD Congresses in 2011, 2012, 2013 and published in various peer-reviewed medical journals were identified using PubMed and Google Scholar. In a retrospective study design, the abstracts were divided into either oral presentations(OP) or poster presentations(PP), type of the study; trial design, first author's name and affiliated institution, mean publication time and journal name were analyzed. Result: From a total of 2417 abstracts, 114(4.7%) were found to be published as a scientific full-text article. While the conversion rate of OP was; 24 of 187(12.8%), for PP it was 90 of 2230(4%), and the difference was statistically significant ( $p<0.001$ ). Experimental studies had the highest publication rate compared to clinical studies and case reports. The publication rate of university-related anesthesia programs was higher than other hospitals. The mean time of publication after the abstract presentation was  $14.4\pm 11.4$  months. Discussion: This is the first study evaluating the publication rates of abstracts presented at TARD congress. Our study results show that conversion to publication rate of TARD congress presentations is 4.7% and this rate is relatively lower than those presented at national congress for other clinical specialties held in Turkey.

### Keywords

Congress; Anesthesia; Publication; Abstract; Full-Text Article; Pubmed; Google Scholar

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## Introduction

In a scientific congress, the scientists share the results of their studies as abstracts, and they share their ideas about these findings. The findings of these studies presented at the congresses and symposiums have an important role for scientific improvement. For distribution of these new findings to all our colleagues working in the anesthesiology field, the reported findings need to be published in medical journals to be able to distribute reliable reports related to the study design, methods, and outcomes. Finally, colleagues who have no chance to join these scientific platforms will have an opportunity to reach up-to-date knowledge related to new research data [1,2].

Even today, there are limited number of articles which evaluate the conversion rate of the abstracts into scientific articles in national congresses organized in Turkey. Recently, data on the national congresses of different other clinical fields such as; gynecology, rheumatology, radiology, and plastic reconstructive-aesthetic surgery national congresses were reviewed, and it has been reported that the conversion rate of abstracts into peer-reviewed scientific publications were between 5.7% and 28.6% [3-6]. No similar studies have been reported about the national congress and scientific meetings in the field of anesthesiology and reanimation in Turkey.

The Society of Anaesthesiology in Turkey was founded in 1956, and it was named as Turkish Anaesthesiology and Reanimation Society (TARD) in 1972. TARD is the only legal nongovernmental organization in Turkey in the field of anaesthesiology, perioperative care medicine, pain medicine, and critical care and it is a member of the World Anesthesiology Federation. TARD organizes national congress during the last 50 year period each year and publishes a monthly scientific journal in the field of anesthesiology and reanimation. This society provides communication of physicians with colleagues throughout the world and develops guidelines depending on new scientific knowledge. Improving education of students in anesthesiology and reanimation in hospitals in Turkey, and setting accreditation certificates and board exams are other activities.

This study aims to determine the rate of conversion to scientific full-text articles publication of abstracts presented at the annual congress TARD between the period of 2011-2013.

## Material and Method

To obtain the reports published in the peer-reviewed journals, we identified all oral presentations (OP) and poster abstracts accepted to the TARD, which was held in 2011, 2012 and 2013. All data of the reports presented at the congress were obtained using the congress booklet provided to the participants during these three congresses. A period of minimum 36 months was selected for follow-up of the abstracts for publication as it was accepted as adequate time for the editorial process [7]. Therefore, we decided that July 2017 would be a cut-off date. The study was conducted in a retrospective study design. An investigation of databases were performed with the help of the PubMed database [8] and Google Scholar [9] electronic search engines by each author of this research. The search was conducted by entering the name and surname of the first and second authors along with the title in English and Turkish languages. If search did not give a result for the abstract, it was

assumed that the study was not published in a journal. The investigation related to a full publication includes; the year of national congress abstract document publication, the presentation type as oral or poster of abstract, study type (clinic study, experimental study, case presentation), study design (prospective, retrospective) and the affiliated institution (university hospital, training and research hospital, state hospital and private hospital) were recorded. The institution of the first author was considered as where the study was mainly performed when it is found that there are several institutions related to the authors working addresses. The date of publication according to the month and year, the name of the journal, and the index of the journal (Science Citation Index(SCI), Science Citation Index-Expanded(SCIE), national journals) were also noted. As patient data was not used and there was no need for informed consent of patients, approval of ethics committee was not required. After the data was entered into a computer, the Statistical Package for the Social Sciences version 20.0 software (SPSS Inc., Chicago, IL, USA) was used to analyze the data. A descriptive analysis was initially performed. Numerical variables were presented as average, and standard deviation and categorical variables were presented as percentages. The Mann Whitney U-test was used to compare continuous variables, and the Pearson chi-square test and Fishers-Exact test were used to compare categorical variables. A p value of <0.05 was considered statistically significant with 95% confidence interval (%95 CI).

## Results

There were a total of 2417 accepted abstracts at 2011, 2012, and 2013 of which 187(7,73%) were OPs, 2230(92.3%) were poster presentations (PP). Of these presentations, 114(4.7%) were published in the various medical journals. The distribution of publication rate according to years was found as 663/37(5.58%) in 2011, 739/43(5.81%) in 2012, and 891/34(3.81%) in 2013(Table 1) (Figure 1). According to the type of presentation, 24(12.8%) of the OPs and 90(4%) of PPs were published in either national or international peer-reviewed journals. The publication rate for OP was higher than PP, and the difference was statistically significant ( $p < 0.001$ ) (Table 2). According to the type of institution, proceedings from the universities had the highest ratio of publication (53.4%), followed by studies from training and research hospitals (41.1%), multi-centered studies (4%), and state hospitals (1.5%). There were no significant differences between the distribution of oral and

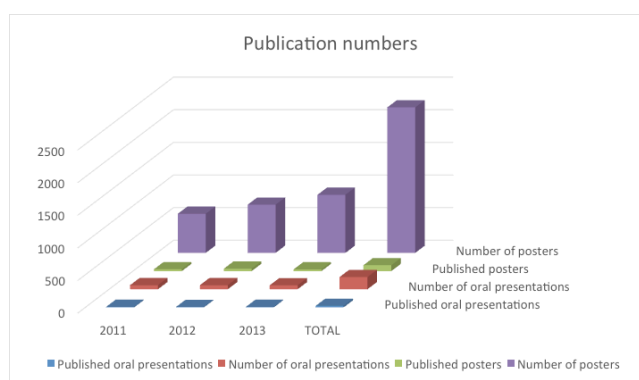


Figure 1. Publication numbers according to presentation type and presentation year in the Turkish Society of Anesthesia and Reanimation Congresses

Table 1. Publication numbers according to presentation type and presentation year in the Turkish Society of Anesthesia and Reanimation Congresses

Year	Number of posters	Posters published	Number of OPs	Published OPs	Total Published
2011	600	28	63	9	37
2012	739	36	63	7	43
2013	891	26	61	8	34
Total	2230	90	187	24	114

Table 2. Publication rates of the abstracts according to years

Year	Publication rate (%)	P
2011	5,58	P=0.354
2012	5,81	P=0.364
2013	3,81	P=0.154

PPs according to the institution types. There was no statistical difference in the rate of publication of presentations between universities and training and research hospitals (p=0.412). But; there was a statistical difference in the rate of publication of presentations from universities and training and research hospitals between multi-centered and state hospitals (p=0.623, p=0.741, p=0.701) with respect to the institution types in which presentations were converted into publications. In 2011 and 2012 no publication was produced from proceedings of state hospitals and private hospitals, but in 2013 only one proceeding ended with publication.

When the types of publications were reviewed; 1388(57.4%) abstracts were clinical studies, 987(40.8%) were case series or case reports presentations, and 42(1.8%) were experimental studies. When clinic studies were compared according to their prospective and retrospective nature; among the 1242(50.2%) of the clinical studies were prospective studies whereas 604(49.8%) were retrospective in nature, the rate of publication was higher in prospective clinical studies than retrospective studies, and significant difference was founded between two groups (p=0.643).When the publication rate was examined according to type of abstract, it was seen that experimental abstracts had the highest rate (73%) of being published and case reports had the lowest publication rate (2.4%)5; publication rates according to study type were statistically significantly different (p<0.001), as shown in Table 3.

The duration between the date of Congress and the publication date of abstract as an article was 14,4±11.4 months (range 3 to 72 months), this duration was 13,5±15.1, 14,6±13.6 and 17,4±11.2 months for the years of 2011, 2012, and 2013 respectively (p=0,321, p= 0,356, p=0,422) (Table 4). Publishing time for OPs was relatively longer compared PPs, but no significant difference was observed (p=0.18). When training and research hospitals were compared to university hospitals, presentations from training and research hospitals identified to be published earlier than other institutions (p=0.062). Analysis of

Table 3. Classification of the abstracts presented at congresses according to study type

Type of study	Total (n, %)	Publication (n, %)	P
Clinical study	1388 (57.4%)	59 (4.2%)	P=0.324
Case presentation	987 (40.8%)	24 (2.4%)	P=0.467
Experimental study	42 (1.8%)	31 (73%)	P<0.001

Table 4. Average time publication of the abstracts according to years

Years	N	Average time until publication (months)	SD	Minimum	Maximum	p
2011	37	13.5	19.13	3	50	0.384
2012	43	14.6	21.34	3	58	0.004
2013	34	21.4	24.42	-17	72	0.432
Total	114	16.5	21.57	-17	50	0.314

SD: standard deviation

publication rate and publication duration according to the subject, there was not a significant difference between three fields (p=0.68, p=0.59, p=0.78).

When it was evaluated according to the abstract subject of published articles, "pain" ranked first, "intensive care" field the second and "anesthesia" third (n= 58, n=31 and n=25).Of all the reports published in 63 different national or international medical journals. While 42(36.8%) abstracts that have been published as an article in international journals, 72(63.2%) were published in national journals. The percentages of the publications are low in international journals, and there was a significant difference between national journals (p<0.05). The first five journals that were listed by databases in which the articles were mostly published are Turkish Journal of Anesthesia and Reanimation(n=13), Pain(n=9), Anaesthesia and Analgesia(n=9), Acta Anaesthesiologica Scandinavica(n=8), European Journal of Anaesthesiology(n=4).

**Discussion**To our knowledge, this study is the first study to determine publication rates of the abstracts presented at the Annual Congress of the TARD. The main result showed that 4,7% of the abstracts, were converted to manuscripts and published in the peer-reviewed journals within the subsequent three years. Scientific research shared at the congresses provide a very important effect in scientific improvement. New studies shared with the medical community after the congresses may develop by the contributions of the colleagues [10]. When these reports are accepted for publication in medical journals, we can think that the researchers conducted these studies by scientific methods ending with reliable results. In addition, publication of these studies in the journals is the best way of intercommunication with a wide range of colleagues worldwide rapidly, and the scientific quality of a congress may be evaluated by the publication rate of abstracts [11,12]. For this purpose, there is a need for an evaluation of the conversion of abstracts into full-text peer-reviewed, and indexed articles in national and international journals and the evaluation would also provide data on the quality of these publications which can be assessed by citation rates, h-index, and publication in science citation indexed journals. In a Cochrane meta-analysis published in 2007, after review of the 30,000 reports, the conversion rate of abstracts to scientific articles was reported as 44.5% [13]. National meetings for clinical sciences had different publication rates for different clinics. The main reason for this difference in national congress results were the used methodology, search engine and the properties of the published journal as national or international. The publication rate of national congress proceedings in different medical branches was reported as significantly low in recent studies [14].

Our study included the most comprehensive national meeting about Anesthesiology and Intensive Care in which nearly 1500 participants attend annually in Turkey. Similarly, in the same field report from in The Indian Society of Anaesthesiologists national congress that is the primary conference of anesthesia in India the publication rate of presentations was 5% [15]. No similar studies were found in Turkey about Anaesthesiology and Reanimation, but when different clinical branches were compared, our rate is relatively lower than those presented at national congress for clinical specialties held in Turkey and other countries [3-5,16].

According to our results, we determined that OPs presented at TARD congresses had higher publication rate than the PPs and the difference was statistically significant (12.8% vs. 4%,  $p < 0.001$ ). Commonly in the scientific view, studies with better methodology and design are expected to be an OP in congresses. Consequently, when the type of proceedings are examined OPs have statistically significantly higher rates of publication as articles when compared with posters. After OPs, the critics made by the participants of the Congress attribute to the completion of the deficiencies before the publication. It was reported that OP of the more qualitative studies was the most important cause [17]. In our study, although the number of proceedings about 'pain' is lower than other subjects, the publication rate of this subject is the highest. Balasubramanian et al. reported that; a treatment alternative, experimental studies, and large-scale studies had a higher chance of being converted into full-text publications [18]. There was no significant difference between the publication rates of OP and PP in a study [19], but in a similar study, some authors reported that the publication rate of OP was higher than PP [20].

It was determined that clinic studies (57.4%) constituted the biggest percentage and case reports second biggest (40.8%) percentage of studies that were presented at the TARD Congress, but experimental studies (1.8%) have the highest publication rate as an article in peer-reviewed journals 4.2%, 2.4%, and 73%, respectively. The highest publication rate was in the experimental group, and this may be due to the higher diligence of the investigators or the higher predisposition of acceptance of the studies (Table 3).

The highest ratio of presentations ( $n=61, 53.4\%$ ) was from the universities when the type of the affiliated institutions were compared. The publication rate of presentations from training and research hospitals was lower. Less time given for academic studies due to workload when compared to universities may be a reason, and the change of the institutions of the physicians of training and research hospitals may be another reason. Weber et al. in their questionnaire-based study reported the reasons for not publishing as some pessimistic belief about acceptance, lack of confidence about the importance of the results and low priority of submitting a manuscript for the authors [21].

There is a certain time for submission and evaluation processes, so the reports published in several journals were sent to the journals without losing considerable time after the Congress. The publication interval for abstracts presented at national meetings varied from 14.9 months to 30.72 months [22]. This higher rate of the publication may be attributed to the type of the Congress as international. It should be noted that

clinical studies may take longer time for evaluation, maturation, data collection, interpretation, and inscription. Time intervals for publication may be affected due to the quality of the study classified as randomization status of the study and the statistical methods used [23]. In our study, the mean time for publication was found  $14.4 \pm 13.8$  (range 2 to 40) months. PP publication time were found shorter compared to OP. (Mean value: 12 months (2-23) vs. 23 months (6-40);  $p=0.062$ ) (Table 4). Similar to our study; PPs were often case reports and were sent to peer-reviewed journals sooner than the other types. The length of publication time was comparable with that of other medical societies congresses [24]. In a study, it was reported that 90% of the abstracts that have been published as articles were published within four years [25]. In our study; 90% of these proceedings were published as articles in first two years and 10% in after two years.

When it was evaluated according to the abstract subject of published articles, "pain" ranked first with 58(8%) abstracts, "intensive care" field ranked the second with 31(7.4%) abstracts and "anesthesia" the third with 25(3.37%) abstracts (Table 5).

Table 5. Classification of the published abstracts according to their subjects

Subject of article	Total	Number of Publication	%	p
Anesthesia	1721	58	3.37%	P=0.581
Intensive care	415	31	7.4%	P=0.329
Pain	281	25	8.8%	p=0.272

Although our study is the first trial on publication rates of abstracts presented in the TARD, it still has some limitations. First of all, computerized search for full-text articles was carried out manually so the chances of human error cannot be ruled out. Additionally, our search strategy did not enable us to identify full publications in the journals indexed in the other databases (Thomson Reuters, Scopus, OvidSP, EBSCO). So the abstracts that were accepted by journals and not indexed in these two big databases may have been missed. In a study, it was reported that the title changed in 40% from abstract to the publication [24]. We considered this situation also as a limitation of our study.

In conclusion, we found the publication rate of the reports presented at the Annual Congress of the TARD relatively lower compared to the rates at other national congresses in Turkey. Our study results show that OPs were more frequently converted to publications than PPs; the time to convert into a publication was significantly shorter in PPs, and the highest conversion rate of publications was from universities. We think more selective and qualitative rather than quantitative acceptance of the proceedings before congresses may increase the publication rates of the abstracts. Also, we think that restriction of the case reports may increase the publication rates.

#### Conflicting interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

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