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# Publication rates and features of abstracts presented at emergency medicine congresses in Türkiye: An analysis of 10,055 abstracts

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## Abstract:

**Original Article** 

**OBJECTIVES:** The domain of emergency medicine (EM) is not only rapidly evolving but also witnessing a significant surge in research publications, particularly in Türkiye. In this context, this study aimed to investigate the publication outcomes of abstracts presented at national EM conferences and evaluate the quality of these publications, thereby contributing to the understanding of the evolving landscape of EM research in Türkiye.

**METHODS:** To ensure the accuracy and reliability of our findings, we meticulously examined abstracts presented at the annual conferences organized by the EM Association of Türkiye and Emergency Physicians Association of Türkiye from January 2015 to December 2021. We screened public databases such as Web of Science, SCOPUS, PubMed, Google Scholar, and ULAKBIM to identify any subsequent publications of these abstracts. The data on publication dates, and journal impact factors were thoroughly analyzed.

**RESULTS:** The study included 10,055 abstracts, comprising 3794 (37.7%) oral presentations and 6261 (62.3%) poster presentations. Of these, 829 abstracts (8.2%) were later published as full publications in journals indexed in at least one major database. Among the published articles, 36 (4.3%) appeared in Q1 journals, while 346 (41.6%) were published in journals without quartile rankings. The median duration until publication was observed to be 12 months.

**CONCLUSION:** The publication rate for abstracts presented at EM conferences was 8%, with most articles published within 2 years. Oral presentations had a higher publication rate than poster presentations, indicating higher quality. The authors' affiliations and the studies' designs emerged as pivotal factors influencing the success of publication.

#### Keywords:

Abstracts, bibliometrics, congress, emergency medicine, publications, research

## Introduction

Emergency medicine (EM) is a relatively new branch of science that is constantly evolving within world medicine. Despite its brief history, the volume of scientific

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms. publications in EM, particularly in Türkiye, has been steadily increasing.<sup>[1]</sup> The EM Association of Türkiye (EMAT) and the Emergency Physicians Association of Türkiye (EPAT), established in 1995 and 1999, respectively, are pivotal organizations dedicated to advancing the field of EM in the country. These associations play a crucial

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## Box-ED

### What is already known about the study topic?

• Emergency medicine is a relatively new branch of science constantly evolving within world medicine. Although a short time has passed since its establishment, the number of scientific publications in emergency medicine, especially in Türkiye, is increasing daily.

## What is the conflict on the issue? Is it necessary for readers?

- The conflict in this issue lies in the relatively low publication rate of abstracts presented at Turkish Emergency Medicine annual meetings compared to international standards and the potential factors contributing to this discrepancy.
- This study is important for readers, especially those involved in emergency medicine research and practice, as it sheds light on the challenges faced by researchers in Türkiye regarding disseminating their findings and the impact on the advancement of emergency medical care.

## How is this study structured?

• This retrospective bibliometric study includes data from 10,055 scientific abstracts.

## What does this study tell us?

- Overall, this study contributes to our understanding of the research landscape in Türkiye's emergency medicine field, identifies areas for improvement, and underscores the importance of addressing barriers to publication to enhance the quality and impact of research in this critical area of health care.
- Higher publication rates were observed in oral presentations, university hospital publications, and randomized controlled trials.

role in fostering academic and professional growth through scientific meetings that facilitate the exchange of research and knowledge.

At these meetings, researchers are invited to present their work in the form of posters or oral presentations, which serve as key platforms for disseminating new findings.<sup>[2,3]</sup> In addition, the environment is often beneficial for authors because they can benefit from critiques and feedback to improve the quality of their work before it is submitted for full publication in a journal. The publication rate of abstracts is a widely accepted indicator for determining the quality of a scientific meeting. A Cochrane meta-analysis published in 2018 reported that the publication rate of abstracts submitted from a variety of disciplines was 37.3%.<sup>[4]</sup> The publication rates of meeting abstracts in different medical branches were investigated.<sup>[5-8]</sup>

Given the increase in the volume of scientific publications, bibliometric studies have become essential tools

for tracking trends and guiding research efforts.<sup>[9,10]</sup> Although no comprehensive analysis has previously assessed the abstract conversion rates of EM Congresses held in Türkiye, two studies have explored similar topics. Kalkan *et al.* examined the publication rate of abstracts presented at the EM congresses organized by the European Society for EM, including the one held in conjunction with the 7<sup>th</sup> European Congress on EM in Türkiye.<sup>[11]</sup> In 2019, Dogruyol and Avci analyzed the contribution of national congress presentations to the scientific literature, revealing important insights into the efficiency of such events.<sup>[12]</sup>

Building upon these previous studies, this study aimed to be the first comprehensive report evaluating the abstract conversion rates of EM Congresses held in Türkiye. Its primary objective was to ascertain the subsequent publication rates of studies presented by EM Physicians in peer-reviewed journals, alongside the disposition of the papers presented at the EM Congresses organized in Türkiye. Our secondary goals were to evaluate the median publication time, identify factors that may predict publication success for various scientific designs, and provide guidance for developing strategies to improve the quality of studies in EM.

## Methods

EM abstracts selected for poster and oral presentations at the annual meetings organized by the EMAT and EPAT between January 2015 and December 2021 were screened retrospectively after institutional ethical board approval (Marmara University Institutional Review Board, IRB No: 09.2022.790, May 2022). Detailed names, years, and organizers of all symposia and congresses included in the study provided in Supplementary Table 1.

At the beginning of the study, researchers were given standardized comprehensive literature review training. First, the abstracts' titles and first author names were inputted into the database. Subsequently, the oral and poster abstracts were segregated and categorized based on the year of presentation. Finally, a comprehensive literature review was conducted using international electronic databases (Google Scholar, PubMed, SCOPUS, and Web of Science) and the National Academic Network and Information Center (ULAKBIM) to find each published abstract by researchers. Both, abstract titles and author names were used to determine whether an abstract had resulted in a peer-reviewed publication. Titles and author names were searched in databases one by one, starting with the author names. Turkish titles were searched separately in both Turkish and English. Based on the studies, abstracts were considered unpublished if a matching article could not be identified in PubMed, Web of Science, SCOPUS, Google Scholar, and ULAKBIM. This process started on August 15, 2023, and ended on November 13, 2023.

Following data acquisition, the year of publication was recorded. Abstracts that have been published as articles prior to their presentation at the conference were assigned a publication period of 0 months. Key metrics, including the number of published abstracts, publication rates, median time to publication, and publication rate within a 2-year timeframe will be computed for each conference meeting. The journals where full articles were published were then scored. Journal Quartiles (JIF) was determined in May 2023 after ethics committee approval from the Journal Citation Reports website (https://jcr. clarivate.com). For journals for which no rankings could be found, these were recorded as absent.

In this analysis, study designs were divided into retrospective and prospective studies, case reports, descriptive studies, analytical studies, randomized controlled trials, non-randomized controlled trials, survey studies, cross-sectional studies, cohort studies, and animal studies. The memberships of the presenting authors were categorized as universities, training and research hospitals, state hospitals, and private hospitals. Studies where the first author was not an EM Physician were excluded from the analysis. Studies conducted outside Türkiye, and studies in which no Turkish Emergency Physician was a co-author were also excluded.

SPSS version 23, IBM, Armonk, NY, USA was used to assess the results. For continuous variables and percentages for categorical variables were presented as medians with interquartile ranges (IQRs). 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 Kruskal–Wallis test were used to compare continuous variables. Statistical significance was set at P < 0.05, using a confidence interval of 95%.

## Results

Between January 2015 and December 2021, 10786 abstracts were accepted for presentation at the annual meetings organized by the EMAT and EPAT. While 54 abstracts were excluded because they were conducted outside Türkiye and did not contain Turkish authors, 677 abstracts were excluded since they were submitted by non-EM authors. Ten thousand and fifty-five presentations met the criteria and were analyzed. Of these presentations, 6261 (62.3%) were poster presentations and 3794 (37.7%) were oral presentations. A total of 829 (8.2%) abstracts were published as articles in journals indexed in at least one major database: Google Scholar, PubMed, SCOPUS, Web of Science, or ULAKBIM. The total publication rates for abstracts in the oral presentation were significantly higher than those in the poster presentations (5.7 vs. 2.6%; P < 0.001). The analysis of published presentations regarding institutional affiliation revealed that university hospitals exhibited the highest proportion of publications at 47.5%, followed closely by presentations from education and research hospitals at 45.0%. State hospitals accounted for 7.1% of the publications, while special hospitals contributed a mere 0.4%. While the rate of published abstracts from universities among all presentations was 4.0%, the rate from education and research hospitals was 3.4%. The publication rate of universities showed a statistically significant difference compared to other institutions [Table 1].

A total of 829 (8.2%) abstracts were published by the study time. 288 (39.7%) were accepted by SCI and/ or SCI-E journals and 163 (22.5%) papers published in ESCI journals, 199 (27.4%) were published in TR Dizin, 75 (10.3%) papers were published in other international peer-reviewed journals. Among the abstracts published in journals with a quartile (n = 483), 36 papers were published in Q1 (%4,3) journals. Papers published in journals with no quartiles have the highest rate %41.6 (n = 346).[Table 2].

<b>Table 1: Publication</b>	rate of abstracts	presented in
emergency medicine	e congress	

	Publication status			Ρ
	Yes, <i>n</i> (%)	No, <i>n</i> (%)	Total, <i>n</i> (%)	
Presentation type				
Oral presentation	572 (5.7)	3222 (32.0)	3794 (37.7)	< 0.001
Poster presentation	257 (2.6)	6004 (59.7)	6261 (62.3)	
Institution				
University	402 (4.0)	4371 (43.5)	4773 (47.5)	< 0.001
Training and research hospital	341 (3.4)	4188 (41.7)	4529 (45.0)	
State hospital	78 (0.8)	634 (6.3)	712 (7.1)	
Special hospital	8 (0.1)	33 (0.3)	41 (0.4)	
Total	829 (8.2)	9226 (91.8)	10,055 (100)	

Table 2: The index and quartile of journals where the	)
abstracts were published	

The index and quartile of journals	Publications, n (%)	
Index of the journals		
SCI/SCI-E	288 (34.6)	
ESCI	163 (19.7)	
TRDIZIN	199 (24.0)	
Others	179 (21.6)	
Quartile of the journals		
Quartile 1	36 (4.3)	
Quartile 2	66 (8.0)	
Quartile 3	211 (25.5)	
Quartile 4	170 (20.5)	
Nonquartile	346 (41.7)	

SCI: Science citation index, SCI-E: Science citation index expanded, ESCI: Emerging sources citation index

Among the abstracts published between study types descriptive studies have the highest rate between published articles (30.3%) followed by case reports (26.4%). On the other hand, randomized controlled trials have a statistically significant publication rate.(57.8%; P < 0.001) [Table 3].

The median duration until publication was observed to be 12 months (interquartile range: 7–22; range: 1–84 months) [Figure 1]. Individually, the median time to publication was 12 months (range: 1–84 months) for oral abstracts and 12 months (range: 1–64 months) for poster presentations. Thus, approximately 80% were published within 2 years, and more than 95% were published within 4 years.

#### Discussion

The findings of this study indicate that among the 10,055 abstracts presented at Turkish EM annual meetings from 2015 to 2021, a total of 829 (8.2%) were published in peer-reviewed journals, which underscores a relatively modest conversion rate of conference abstracts to full publications. This is consistent with the literature that suggests a wide range in the publication rates

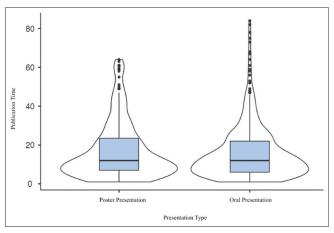


Figure 1: The average publication time

## Table 3: Comparison of publication rates of type of abstracts

	Publication status			
	Yes, <i>n</i> (%)	No, <i>n</i> (%)	Total, <i>n</i> (%)	Р
Case study	219 (2.2)	7515 (74.7)	7734 (76.9)	<0.001
Descriptive study	251 (2.5)	1077 (10.7)	1328 (13.2)	
Analytic study	154 (1.5)	273 (2.7)	427 (4.2)	
Diagnostic accuracy study	101 (1.0)	187 (1.9)	288 (2.9)	
Non-RCT	16 (0.2)	18 (0.2)	34 (0.3)	
RCT	37 (0.4)	27 (0.3)	64 (0.6)	
Survey study	24 (0.2)	77 (0.8)	101 (1.0)	
Animal study	27 (0.3)	52 (0.5)	79 (0.8)	
DCT: Dandamized control	اماسما			

RCT: Randomized controlled trial

of presented abstracts, often falling between 7% and 81.5% for medical specialties. However, our results show a low publication rate compared to the literature, the publication rates in other disciplines were higher than those observed in the present study. In the last systematic review of 307,028 meeting abstracts, Scherer *et al.*<sup>[4]</sup> reported that the publication rate of abstracts for many clinical specialties was 37.3%.

Several factors may contribute to this low publication rate. First of all, language could be a barrier to international peer-reviewed journals for Turkish investigators. Previous studies reported that author origin (from non-Englishspeaking countries versus English-speaking countries) impacted abstract publication rates. Most journals are published in English, and researchers from Englishspeaking countries may have a clear advantage in articulating their findings and making their manuscripts more acceptable for publication.<sup>[13]</sup> Second, the scarcity of prospective studies might have affected the publication rate of abstracts. Ozturan and Sarbay demonstrated that studies utilizing prospective data collection are 2.5 times more likely to be published in high-quality journals compared to those relying on retrospective methods, underscoring the significant advantage of prospective study designs in achieving publication success.<sup>[14]</sup> Third, studies of lower-quality design had a lower chance of publication as an article. Randomized controlled studies, multi-center cohorts, large sample size research, and oral presentations are associated with a higher chance of publication and considered higher-quality abstracts.<sup>[15]</sup> This may be indicative of the specific challenges within the field of EM in Türkiye, such as funding, research infrastructure, or publication support, which warrants further investigation.

The significantly higher publication rate of oral presentations compared to poster presentations aligns with existing studies, which posit that oral presentations are often perceived as more prestigious and are possibly of higher quality or novelty, thus having a better chance of being published.<sup>[15]</sup> This finding could influence how future research is presented at conferences, with a possible recommendation for increased support for researchers to elevate poster presentations to oral ones, potentially enhancing their publication prospects.

Interestingly, a substantial proportion of the articles published from this cohort were accepted by nonquartile journals. Most of the studies in the literature considered the Journal Impact Factor as a journal's quality indicator. In our study, we used quartile rankings because the journal impact factor has limitations, but it is still considered the most common indicator used to grade a medical journal's quality.<sup>[16]</sup> For better comparison based on impact factors is possible by using a normalized indicator as the percentage of articles published in journals ranked in the top quartile.<sup>[17]</sup> The higher rate of publication in journals without quartiles could reflect a strategic focus by authors to ensure publication over the impact factor, which may be a pragmatic approach in a field where timely dissemination of findings is crucial.

The median time to publication was consistent with previous studies on medical meetings, suggesting that despite the lower overall publication rate, the timeline from presentation to publication in this field is comparable to other specialties.<sup>[16,18,19]</sup> However, there was a significant difference in comparing published abstracts regarding time to publication and presentation type. Oral and poster presentation abstracts were published in journals within a median period of 12 months. Oral presentations had higher publication rates than poster presentations. Our findings support previous systematic reviews and recent studies in which oral presentations were more likely to be published than poster presentations because of preconference peer review and selection of the highest quality abstracts for oral presentation. However, different selection criteria and types of research presented (original research, case reports, etc.) between oral and poster abstracts should be considered in interpreting these results. This expedited timeline to publication may be beneficial for the rapid evolution and dissemination of knowledge in EM, which is often at the forefront of healthcare advancements.

Finally, the higher publication rates observed among university hospitals align with global trends, where academic institutions typically lead in research output. However, the substantial contribution from education and research hospitals is notable and indicative of a strong research culture that warrants continued support. Literature shows similar results when compared to our study; Eren *et al.* found higher publication rates when compared to education and research hospitals.<sup>[6]</sup> This finding can be explained by the relatively higher motivation and academic goals of university-based researchers responsible for medical school students' education and resident training.

The fact that descriptive studies and case reports lead in publication rate amongst study types, was caused by most of the abstracts were descriptive studies and case reports; on the other hand randomized controlled trials (RCTs) had a significantly higher publication rate, reflects the complexity and resources required for RCTs, but also their importance and high impact within the research community.

## Limitations

Despite conducting a thorough search, it is acknowledged that certain abstracts may have been overlooked due to

variations in titles or author names, potentially leading to an underrepresentation of the total number of abstracts included. The analysis was confined to a specific time frame, which may have resulted in the exclusion of longer-term trends or recent developments in EM that occurred outside of the defined period. While efforts were made to identify published manuscripts corresponding to the presented abstracts, it is recognized that a small proportion of manuscripts may still be published after the study's conclusion, although this is typically considered a minor margin of error.<sup>[7]</sup> Moreover, although the investigators were trained in standardized literature review procedures, interrater reliability between among them was not assessed. In addition, certain factors known to influence research publication outcomes-such as results of the abstracts, their quality, sample size, and financial support were not systematically evaluated within the scope of this study.<sup>[6]</sup> These factors could potentially impact overall publication rates and should be considered in future analyses or investigations.

## Conclusion

This study highlights several facets of the research landscape in Turkish EM, from publication rates to the types of studies that are more likely to be published. The insights gained can be leveraged to enhance the research-to-publication pipeline, improve the quality of research presented at conferences, and develop strategies to support researchers, especially in nonuniversity settings. Further studies are necessary to understand the barriers to publication and how these can be addressed to improve the overall research output and its impact on emergency medical care.

#### Author contribution statement

SK: Conceptualization, methodology, formal analysis and interpretation of data, project administration, writing – original draft preparation.

ES: Conceptualization, methodology, formal analysis and interpretation of data, supervision, writing – original draft preparation.

EK: Acquistion of data, investigation, methodology, writing- review and editing.

EÜ: Acquistion of data, investigation, methodology, writing- review and editing.

MES: Acquistion of data, investigation, methodology, writing- review and editing.

MBK: Acquistion of data, investigation, methodology, writing- review and editing.

## Conflicts of interest

## None Declared.

#### Ethical approval

The study protocol approved by Marmara University Institutional Review Board (IRB) (IRB No 09.2022.790) (Date May 2022).

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## Supplementary Table 1: Names, organizers, and year of the meetings included in the study

Meeting name	Year	Organize
11 <sup>th</sup> Turkish EM Congress	2015	EMAT
4th EM Association of Türkiye Summer Symposium	2016	EMAT
5 <sup>th</sup> Eurasian Congress on EM and 12 <sup>th</sup> Turkish EM Congress	2016	EPAT
9th Asian Conference on EM and 13th Turkish EM Congress	2017	EMAT
Course days congress	2017	EMAT
6 <sup>th</sup> EurAsian Congress on EM 14 <sup>th</sup> Turkish EM Congress	2018	EMAT
National Symposium on Toxicology in EM	2018	EMAT
Course days congress	2018	EMAT
Thracian EM days	2018	EMAT
Ultrasonography in the Emergency and Critical Patient Symposium	2019	EMAT
4 <sup>th</sup> Thracian EM Days	2019	EMAT
3 <sup>rd</sup> Course Days Congress	2019	EMAT
15 <sup>th</sup> Turkish EM Congress	2019	EMAT
16 <sup>th</sup> Turkish EM Congress	2020	EMAT
4 <sup>th</sup> course days congress	2020	EMAT
7 <sup>th</sup> EurAsian Congress on EM and 17 <sup>th</sup> Turkish Congress on EM	2021	EMAT
11th National EM Congress and 2nd International EM Congress and 2nd International Critical Care and EM Congress	2015	EPAT
<sup>rd</sup> International EM Symposium	2015	EPAT
12 <sup>nd</sup> National EM Congress and 3 <sup>rd</sup> International EM Congress and 3 <sup>rd</sup> International Critical Care and EM Congress	2016	EPAT
13th National EM Congress and 4th International EM Congress and 4th International Critical Care and EM Congress	2017	EPAT
Kapatoks 2017	2017	EPAT
nternational Emergency and Family Medicine Symposium	2017	EPAT
2nd International Emergency and Family Medicine Symposium	2018	EPAT
<sup>rd</sup> International Emergency and Family Medicine Symposium	2018	EPAT
14th National EM Congress and 5th International EM Congress and 5th International Critical Care and EM Congress	2018	EPAT
2 <sup>nd</sup> Eastern Anatolia EM Days	2018	EPAT
Kapatoks 2018	2018	EPAT
EM Spring Symposium	2018	EPAT
2 <sup>nd</sup> Southeast European Congress of Emergency and Disaster Medicine	2019	EPAT
15th National EM Congress and 6th International EM Congress and 6th International Critical Care and EM Congress	2019	EPAT
4 <sup>th</sup> International Emergency and Family Medicine Symposium	2019	EPAT
5 <sup>th</sup> International Emergency and Family Medicine Congress	2019	EPAT
stanbul EM Winter Symposium	2019	EPAT
Brd Eastern Anatolia EM Days	2019	EPAT
16th National EM Congress and 7th International EM Congress and 7th International Critical Care and EM Congress	2020	EPAT
1st National Medical Emergency E-Congress	2020	EPAT
6 <sup>th</sup> International Emergency and Cardiac Care Symposium	2021	EPAT
7 <sup>th</sup> International Emergency and Internal Medicine Congress	2021	EPAT
8 <sup>th</sup> International Critical Care and EM Congress	2021	EPAT

EM: Emergency medicine, EMAT: EM Assocaiton of Türkiye, EPAT: Emergency Physicians Assocaiton of Türkiye