Rate of conversion of reports presented at the Turkish Society of Sports Traumatology, Arthroscopy and Knee Surgery Congress into publication

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**Abstract**

Objective: The aim of this study was to evaluate the conversion rate of oral and poster presentations into publications presented at four consecutive congresses held by the Turkish Society of Sports Injuries and Arthroscopy between 2008 and 2014 and to determine the publication pattern.

Methods: The manuscripts published in peer-reviewed journals were identified using the Web of Knowledge, PubMed, Google Scholar databases, ULAKBIM, and Endnote citation management software (X7.7.1). The identified manuscripts were classified according to the level of evidence, number of citations, subject, publication journals, time period until publication, and citation index of the journal.

Results: Between 2008 and 2014, a total of 561 presentations were made, comprising 278 posters and 283 oral presentations. Of these presentations, 164 (29.2%) were published as a manuscript. Of the published articles, 114 were originated from oral presentations (40.2% of total) and 50 from poster presentations (18% of total). A significantly higher number of oral presentations compared to poster presentations were converted into publications (p < 0.05). However, no significant difference was determined between the conversion rates of oral and poster presentations in 2014. The mean time from presentation at the congress to publication was 15.4 months (range: −144 months to −62 months). The mean impact factor of the journals at the time of publication increased for each congress. Evidence level of presented articles was significantly higher in the 2014 congress when compared to previous congresses.

Conclusion: The rate of conversion into publication was higher for oral presentations, which can be attributed to the fact that studies with a higher level of evidence are more likely to have been presented as oral presentations. Based on these study results, authors of oral presentations at congresses should be encouraged to increase the rate of conversion into publication.

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Introduction

The research paper presented at a scientific congress being accepted for publication in a peer-reviewed journal is the most objective criteria to indicate that the study has been performed as per applicable scientific methods yielding reliable results, and this is also an important factor raising the value of the congress.1–7

After meticulous preliminary assessment of submissions to the congresses, not all written or oral reports to be presented at the congress are converted into publication in scientific journals. The rate of publication for oral or poster presentations submitted to the congresses ranges from 11% to 66%.4,6,8–20

The congresses held by the Turkish Society of Sports Injuries, Arthroscopy, and Knee Surgery (TUSYAD) is a national platform on which contemporary studies are shared with other researchers. There has been no previous report on the conversion rate of reports presented at TUSYAD congresses into publication.

The aim of this study was to evaluate the rate of conversion into publication of oral and poster presentations at the 9th, 10th, 11th, and 12th congresses held by the Turkish Society of Sports Injuries and Arthroscopy between 2008 and 2014 and to determine the publication pattern. By reporting on the current situation, it was aimed to provide data for the acceptance at future congresses of presentations with a high rate of conversion to publication.

The hypothesis of the study is rate of conversion into publication of oral and poster presentations at congresses held by the Turkish
Society of Sports Injuries and Arthroscopy might be lower than the international congresses.

Material and methods

All oral and poster presentations submitted to the TUSYAD congresses held between 2008 and 2014 were reviewed. During this period, TUSYAD held the 9th, 10th, 11th, and 12th congresses in 2008, 2010, 2012, and 2014, respectively. All data related to the reports presented in the congresses were accessed through the TUSYAD web page (www.tusyad.com).

The literature search was commenced on December 15 and completed on December 31 (2016) using the PubMed (http://www.ncbi.nlm.nih.gov), Web of Knowledge (http://www.webofknowledge.com), Google Scholar (http://scholar.google.com.tr), ULAKBIM (http://ulakbim.tubitak.gov.tr) databases, and Endnote citation management software (X7.7.1).

The abstracts were evaluated in two groups as oral and poster presentations. The literature search was started by searching for the whole title. When this search failed, all publications of the authors starting from the first author were searched in five different search engines. All identified manuscripts were evaluated in the full text version and checked whether the subject overlapped with the presentation subject.

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The number of citations received by a manuscript until 31.12.2016 was determined. The impact factor of the journal at the time of publication of the manuscript was used. The web source at http://www.scimagojr.com was used for this purpose.

In all the published articles, the whole text was examined and the subject of the research was determined. The manuscripts were divided into two groups as experimental studies and clinical studies. The level of evidence in the clinical studies was determined as per the statement of the author in the manuscript or based on the records in the PubMed database. In the absence of data regarding the level of evidence, the manuscripts were classified according to the parameters of the Oxford Centre of Evidence-Based Medicine (http://www.cebm.net) published in 2011.

In the light of literature studies, the time period from 2008 to 2016 was considered to be sufficient for conversion of congress presentations to publication.33–26

Statistical analysis was performed using SPSS version 23.0 statistics software package (IBM Corp., Armonk, NY, USA). The Yates Chi-square (χ2) test was used to compare the qualitative data together with descriptive statistics (frequency, percentage). Values of α < 0.05 were considered statistically significant.

Results

In four consecutive congresses held by TUSYAD over a six-year period between 2008 and 2014, a total of 561 presentations were made, comprising 278 posters and 283 oral presentations. Of these presentations, 164 (29.2%) were published as a manuscript (Table 1). Of the published articles, 114 were originated from oral presentations and 50 from poster presentations.

The mean time from presentation at the congress to publication in the journal was 15.4 months (range: −144 months to +62 months). Twelve reports were published as a full text before presentation at the congress.

The manuscripts were classified according to their design (experimental or clinical study) and the level of evidence. A total of 40 experimental and 124 clinical studies were identified to have been converted into publication. The classification of clinical studies according to the practices of evidence-based medicine is shown in Table 2. Of the published studies, 24.3% had an experimental design. The level of evidence in the clinical studies was Level-I in 16.1% of the clinical studies, Level-II in 5.6%, Level-III in 18.5%, Level-IV in 44.3%, and Level-V in 15.3%.

The manuscripts were published in 67 different peer-reviewed journals. When the publication frequency of the manuscripts in the journals was evaluated, the Journal of Knee Surgery, Sports Traumatology, Arthroscopy ranked first with the highest number of manuscripts (n = 29) being published. The databases by which the published articles were indexed are shown in Table 3.

The number of citations received by the published manuscripts was between 0 and 24. The mean impact factor of the journals at the time of publication was 0.83. The mean impact factors of the manuscripts and the journals at the time of manuscript publication are presented in Table 4.

Knee problems in adult patients was the most commonly addressed subjects in the published manuscripts. The frequencies of which component of the knee joint was addressed in the articles is shown in Table 5.

The clinical studies published in the poster and oral presentation format were evaluated according to the parameters of the Oxford Centre of Evidence-Based Medicine (http://www.cebm.net/) published in 2011. The studies with Level 1–2–3–4 evidence level were mostly published in the oral presentation format and those of evidence level V were mostly presented in the poster format (Table 3).

The rate of conversion into publication for the presentations in 2014 did not significantly differ between presentation formats (p > 0.05). In other years and in the total values of the four years, there were significant differences between the conversion rates of the presentations (p < 0.05). In cases of a significant difference, oral presentations achieved a higher rate of conversion into publication (Table 2).

Discussion

The results of the current study is supporting our initial hypothesis; conversion rate for oral presentations has been shown to

| Dates of congresses | Poster presentations | Oral presentations | TOTAL (%) |
|--------------------|----------------------|--------------------|-----------|
|                    | Presented* Published** (%)| Presented* Published** (%)|           |
| 2008               | 36-5 (13.8%)          | 88-41 (46.5%)      | 124-46 (37%) |
| 2010               | 40-6 (15%)            | 70-30 (42.8%)      | 110-36 (32.7%) |
| 2012               | 42-9 (21.4%)          | 61-29 (47.5%)      | 103-38 (36%) |
| 2014               | 160-30 (51.8%)        | 64-14 (321.8)      | 224-44 (319.6) |
| Total (%)          | 278-50 (17.9%)        | 283-114 (40.2%)    | 561-164 (29.2%) |
be higher compared to poster presentations. The rate of conversion into peer-reviewed national publication for the reports presented at TUSYAD congresses is far below the rates reported in international literature, although the rate is still above the mean national level. The present study covers four congresses held by TUSYAD with international participation. In the TUSYAD congresses, reports are presented either in oral or poster presentation format. Of all the presentations, 29.2% have been converted into publication. The conversion rate was found to be 40.2% for oral presentations and 17.9% for poster presentations.

Conferences are the very first platform on which new studies are shared with other colleagues through oral or poster presentations. The submitted presentations undergo a preliminary screening for acceptance to the congress. This preliminary screening is not sufficient for the research to be quoted as a reference. A manuscript gains its true value only after publication in a peer-reviewed journal. Reports conveying significant information must be converted into publication, as presentations are not indexed in medical databases or quoted as a reference Sprague et al.27

In many branches, the rate of conversion into publication has been investigated for reports presented at important meetings.17,18 The main objective behind these studies is to validate the information conveyed in the presentations.17,18 Determining these conversion rates provides important feedback to the congress organizers and allows the required precautions to be taken at future meetings.

The number of manuscripts converted into publication varies across years. The highest conversion rate was detected for the congress held in 2008 and the lowest rate was observed in 2014. There is an increasing number of manuscripts published in the

Table 2
Yearly publication rates for the presentations [n (%)]. Distribution of the manuscripts according to the level of evidence.

| Year   | Poster Presentations | Oral Presentations | P* | Level of Evidence of Published Articles |
|--------|----------------------|--------------------|----|----------------------------------------|
|        | As an Article        | Not Published      |    | I II III IV V                           |
| 2008   | 5 (13.9%)            | 31 (86.1%)         | 0.001 | 0 0 0 2 3 |
| 2010   | 6 (15.0%)            | 34 (85.0%)         | 0.005 | 0 0 0 2 2 |
| 2012   | 9 (21.4%)            | 33 (78.6%)         | 0.013 | 0 0 1 3 4 |
| 2014   | 14 (21.9%)           | 50 (78.1%)         | 0.730 | 1 1 2 4 2 |
| Total  | 50 (18.0%)           | 228 (82.0%)        | 0.000 | 1 1 3 11 11 |

Table 3
Peer-reviewed journals publishing poster and oral presentations. The first 20 journals publish articles most frequently and the databases that these journals are indexed are mentioned in the table. Six of the 164 published articles were published in the SCI and 49 in the SCI-EXP database (Web of Science).

| Journals publishing the manuscripts | Index   | Number of manuscripts published |
|-------------------------------------|---------|---------------------------------|
| Knee Surgery, Sports Traumatology, Arthroscopy | SCI     | 29                              |
| Acta Orthopaedica et Traumatologica Turcica | SCI-EXP | 22                              |
| Joint Diseases & Related Surgery | SCI-EXP | 12                              |
| Archives of Orthopaedic and Trauma Surgery | SCI-EXP | 11                              |
| Journal of Knee Surgery | SCI-EXP | 5                               |
| The Journal of Foot and Ankle Surgery | SCI-EXP | 5                               |
| Acta Chirurgiae Orthopaedicae et Traumatologiae Cechoslova | SCI-EXP | 3                               |
| International Orthopaedics | SCI-EXP | 3                               |
| European Journal of Orthopaedic Surgery & Traumatology | MEDLINE | 3                               |
| Acta Orthop Belg | SCI-EXP | 2                               |
| Indian journal of Orthopaedics | SCI-EXP | 2                               |
| Haemophilia | SCI-EXP | 2                               |
| Clinical Nuclear Medicine | SCI-EXP | 2                               |
| J Sport Rehab | SCI-EXP | 2                               |
| Foot & Ankle International | SCI-EXP | 2                               |
| European Journal of Orthopaedic Surgery & Traumatology | MEDLINE | 2                               |
| Journal of Sports Science & Medicine | SCI-EXP | 2                               |
| The American Journal of Sports Medicine | SCI | 2                               |
| Journal of Orthopaedic Surgery and Research | SCI-EXP | 2                               |
| Journal of Orthopaedic Science | SCI-EXP | 2                               |

Table 4
The impact factors of the journal at the time of publication and citations of the manuscripts until 31.12.2016. The data was taken from http://webofknowledge.com.

| Years of congress | Impact Factor of the Journal Mean (Min–Max) | Impact Factor of the Manuscript Mean (Min–Max) |
|-------------------|---------------------------------------------|---------------------------------------------|
| 2008              | 0.55 (0.01–1.92)                            | 6.0 (0–15)                                  |
| 2010              | 0.85 (0.17–2.55)                            | 4.8 (0–20)                                  |
| 2012              | 0.94 (0.10–3.53)                            | 2.5 (0–24)                                  |
| 2014              | 0.98 (0.17–3.33)                            | 1.2 (0–10)                                  |

Table 5
The components of the knee joint that are the focus of the article.

| Knee Joint Components | Experimental Studies | Clinical Studies |
|-----------------------|----------------------|------------------|
| Ligament              | 4                    | 32               |
| Cartilage             | 4                    | 21               |
| Tendon                | 5                    | 5                |
| Meniscus              | 4                    | 5                |
| Bone tissue           | 4                    | 4                |
| Synovia               | 1                    | 6                |
| Patella               | 1                    | 5                |
| Unclassified          | 2                    |                  |

* The articles on arthroplasty and high tibial osteotomy were classified in this group.
international literature by Turkish authors. In 2008, Turkey reached the highest number of publications in the field of orthopaedics. Of the congresses evaluated, the highest conversion rate was observed for presentations at congresses held in 2008. The relatively lower rates for 2014 can be explained by the fact that the review process for the submitted reports may not have been completed. In literature, the mean time for the reports to be converted into publication has been said to be three years.

There is a difference between the publication rates of the poster and oral presentations presented in congresses. This difference may be due to high evidence-level researchers are presented as oral presentations. As we have found in our research, high evidence-level research has been presented mostly as oral presentations. The reason for this may be that researchers or congress organizers’ preference to have evidence-level research presented as oral presentations.

The purpose of sharing a research with colleagues at the congress is that the research to be criticized by other researchers. This critical question can be in the form of criticism, comment and/or contribution. These discussions can be made more after oral presentations. The contribution of these discussions may lead to a positive development of the research and transformation into an article.

There are studies which have evaluated the obstacles to conversion of the reports to publication. These studies have listed time constraints, feeling that the study will not be accepted for publication, feeling that the results of the study are not sufficiently remarkable, problems arising between the researchers, and the presence of similar manuscripts conveying similar results on the same subject, as the identified reasons. This list could also include the paucity of Turkish journals indexed by international databases, the requirement of translation from Turkish to English, difficulties encountered during the translation process, the high costs of international publications, and limited institutional resources to support such publications.

In many other reports, the conversion rate for oral presentations has been shown to be higher compared to poster presentations, and the present study reached the same conclusion. Nevertheless, the number of oral reports accepted for presentation in TUSYAD congresses is gradually decreasing, and they are being replaced by poster presentations. When the congresses held in 2008 and 2014 were compared, the number of accepted poster presentations increased from 36 to 160, and number of accepted oral presentations decreased from 88 to 64 across the years. At the 2014 congress, the number of poster presentations was higher than oral presentations by 250%. This could have the effect of decreasing the conversion rate of reports to publication.

Clinical studies comprised the majority of the reports presented at scientific congresses held to date. Clinical studies often rely on retrospective data collection, do not entail additional costs for the research team, can be performed in the clinic setting and do not require an additional time period. As experimental studies require a laboratory infrastructure, these studies require more time than clinical studies with a retrospective study design and bring additional costs. Considering the current conditions in Turkey, this can be suggested as the reason for the lower number of experimental studies. Clinical studies presented at the TUSYAD congresses were seen to have a 3-fold higher publication rate, compared to experimental studies. Of the published studies, 24.3% had an experimental design. The number of high-level studies must be increased to increase the conversion rate to publication.

One of the most remarkable findings of the present study is that reports presented at national congresses were mostly published in international journals. Of these manuscripts, 17.6% were published in the Journal of Knee Surgery, Sports Traumatology, Arthroscopy.

When the subjects of the manuscripts were evaluated, knee problems in adult patients was the most commonly addressed subject. This finding is also consistent with the clinical practice. A significant proportion of sports injuries involve the knee joint. On the other hand, there is a very limited number of studies evaluating the rate of conversion for national congress reports to publication; these studies have evaluated congresses held in the fields of Turkish national congresses of urology, general surgery, otorhinolaryngology, and plastic surgery, and have reported a rate ranging from 5.7% to 21.5% for the publication of reports in peer-reviewed international journals. For the 20th National Turkish Orthopedics and Traumatology Congress held in 2007, which was quite close to the rate reported by TUSYAD (29.2%). In the TUSYAD congresses, a higher number of presentations were converted into publication compared to other disciplines. However, the rate for international congresses has been reported to be 45% based on Cochrane databases and the results of a meta-analysis. A 40.2% conversion rate for oral presentations has approached the rate of international conversion rate, although the conversion rate of 17.8% for poster presentations still remains below average international rates.

The present study has several limitations. Firstly, the Turkish Medical Index was scanned only with the ULAKBIM database. The second limitation of the present study is possible search errors. These errors may have arisen from the names of the authors being misspelled in the congress booklet files that downloaded from TUSYAD web site and human error during the literature search. Three different researcher performed search independently from six different databases to minimize such errors. Furthermore, some manuscripts might have been in the editorial review process during the period the study was conducted.

In conclusion, the rate of conversion into peer-reviewed national publication for the reports presented at TUSYAD congresses is far below the rates reported in international literature, although the rate is still above the mean national level. In addition to focusing on the attempts to increase the efficiency in publication, a more selective approach must be adopted while evaluating congress submissions for acceptance, as increasing the number of oral presentations will also increase the rate of conversion into publication.

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