Fatma Ezgi CAN,^{a,b} Sema ATIŞ,^c Gökhan OCAKOĞLU,^b İlker ERCAN^b

^aDepartment of Biostatistics and Medical Informatics, İzmir Kâtip Celebi University Faculty of Medicine, İzmir ^bDepartment of Biostatistics, Uludağ University Institute of Health Sciences, Bursa ^oDepartment of Biostatistics and Medical Informatics, Halic University Faculty of Medicine, İstanbul dDepartment of Biostatistic, Uludağ University Faculty of Medicine, Bursa

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Yazışma Adresi/*Correspondence:* Fatma Ezgi CAN İzmir Kâtip Çelebi University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İzmir, TÜRKİYE/TURKEY canezgi@uludag.edu.tr

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Conversion Rates of Abstracts Presented: A Web Survey About ERCIM 2012 and 14th National Biostatistics Congress

Sunulan Özetlerin Dönüşüm Oranı: ERCIM 2012 ve 14. Ulusal Biyoistatistik Kongresi Hakkında Bir Web Anket Çalışması

ABSTRACT Objective: The process of getting the abstracts published as journal articles is an exhaustive work due to the collection and analysis of clinical information, meticulously preparing manuscripts, statistical analysis of data, and subsequent critical peer review process. We investigate publication rate of abstracts presented at national and international statistics congresses in present study. For this purpose we considered abstracts presented at 5th International Conference of the ERCIM Working Group on Computing&Statistics (ERCIM 2012) and 14th National Biostatistics Congress of Turkey in 2012. **Material and Methods**: We invited participants who had participated ERCIM 2012 and 14th National Biostatistics Congress to our study by sending e-mail to their e-mail adresses that obtain from abstract books. **Results**: The present analysis found that 19.40% of abstracts presented at 14th National Biostatistics Congress and 51.90% of abstracts presented at ERCIM 2012 were published as full peer-reviewed journal articles. Percentage of presentations was not sent to any journal to publish for 14th National Biostatistics Congress (51.60%) is higher than ERCIM 2012 (18.50%). In addition, percentage of presentation was accepted to be published in the journal for 14th National Biostatistics Congress (19.40%) is lower than ERCIM 2012 (51.90%). **Conclusion:** Even if all of the presentations presented at the congress is not published, importance of congress is undeniable by the reason of scientific-social communications made at congress and meetings where new ideas are born.

Key Words: Publication; abstracts; publication rates; congresses

ÖZET Amaç: Bildirilerin makale olarak yayınlanma süreci klinik bilginin analizi ve derlenmesi, özenle taslağın hazırlanması, verinin istatistiksel analizi ve sonra gelen kritik bilimsel makale değerlendirme süreci nedeniyle detaylı bir çalışmadır. Bu çalışmada, ulusal ve uluslararası istatistik kongrelerinde yapılan sunumların yayına dönüşüm oranları incelenmiştir. Bu amaçla 5th International Conference of the ERCIM Working Group on Computing&Statistics (ERCIM 2012) ve Türkiye'de yapılan 14. Ulusal Biyoistatistik Kongresi'nde sunulan bildiriler dikkate alınmıştır. **Gereç ve Yöntemler**: Çalışmamızda 14. Ulusal Biyoistatistik Kongresi'nde sunulan bildirileri dikkate alınmıştır. **Bulgular**: Bu çalışmada 14. Ulusal Biyoistatistik Kongresi'nde sunulan bildirilerin %19,40'ının ve ERCIM 2012'de sunulan bildirilerin %51,90'ının hakemli dergilerde makale olarak yayınlandığı bulunmuştur. 14. Ulusal Biyoistatistik Kongresi'nde sunulan bildirilerin oranı (%51,60) ERCIM 2012'den (%51,90) düşüktür. **Sonuç**: Kongrelerde sunulan çalışmaların tamamı yayına dönüşmese de kongrelerin bilimsel sosyal iletişimlerin kurulduğu ve yeni çalışma fikirlerinin doğduğu toplantılar olması nedeniyle önemleri de yadısınamaz.

Anahtar Kelimeler: Yayınlama; bildiri özetleri; yayınlama oranları; kongreler

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nnual scientific meetings allow for the dissemination of novel research findings and are considered valuable for continuing education and advancement of research practice. Whether a novel understanding of technology or practice is accepted ultimately depends on publication in international journals, followed by independent investigation and validation by research peers. The vital importance of informal professional discussion and networking aside, given the limited time and resources of researchers, the scientific and economic value of conferences should be scrutinised.¹

Presentations may be made to describe and evidence new practice, to present research in a public forum or to draw attention to an area of interest.² The turning into publication of an abstract is an indicator of quality an a congress. Publication in peer-reviewed journals allows not only expert critical appraisal, but the widest dissemination of research output. While presentation at scientific meetings is highly desirable to pass on knowledge gained through research, it cannot hope to equal the extent of dissemination possible through publication in scientific journals.³ The process of getting the abstracts published as journal articles is an exhaustive work due to the collection and analysis of clinical information, meticulously preparing manuscripts, statistical analysis of data, and subsequent critical peer review process.4

In present study, we investigate publication rate of abstracts presented at national biostatistics and international statistics congresses. For this purpose we considered abstracts presented at 5th International Conference of the ERCIM Working Group on Computing&Statistics (ERCIM 2012) and 14th National Biostatistics Congress of Turkey in 2012.

MATERIAL AND METHODS

ERCIM 2012 is taken place in Oviedo, Spain, 1-3 December 2012 and this congress was organized by the University of Oviedo and the Queen Mary, University of London. 14th National Biostatistics Congress which was held on 4-7 September 2012 in Kayseri, Turkey and this congress was organized by Biostatistics Association.

In our study, paticipants' data were obtained by a web-based survey. We invited all participants who were presented a study and placed in abstract book and also had participated ERCIM 2012 and 14th National Biostatistics Congress to our study by sending e-mail to their e-mail adresses that obtain from abstract books. We asked participants that their related presentation's situation of publication and whether related publication was published or not. In addition, we asked participants to indicate index of journal that presentation accepted or published.

Of the 376 e-mail (54 for 14th National Biostatistics Congress and 322 for ERCIM 2012) invitations sent, 318 were determined as nonarrival mail (rejected by the server due to e-mail addresses being either incorrectly spelled or no longer valid). We excluded participants who cannot reach e-mail adresses. The number of participants who attended to participate was 58, reflecting a response rate (Response rate=[Receive a reply/(Sending mail-Nonarrival mail)]×100) of 16.62%. Obtained response rate for participants from 14th National Biostatistics Congress is 57.40% and obtained response rate for participants from the ERCIM 2012 is 9.15%.

We used the data analysis were performed by using Pearson chi-square test and Fisher-Freeman-Halton test. The descriptive statistics are reported as frequency and percentage for the categorical data. The significance level was established as α =0.05. The data analysis was performed using IBM SPSS Statistics v. 21 software.

RESULTS

We exclude participants who cannot reach e-mail adresses.

Comparison about statuses according to general publication stages is given in Table 1. Although "related presentation was not sent to any journal to be published" is statistically significant (p=0.009) and "related presentation was accepted to be published in the journal / it was published" is statistically significant (p=0.009), no significant difference found in terms of the "related presentation was sent to a journal, now it is in under review process" (p=0.453) and "research on related presentation continues, therefore not reached to the stage of being published" (p=0.481) in comparisons.

No significant difference found in terms of the presentations whether it published in the

TABLE 1: Comparison about statuses according to general publication stages.					
Status	14 th National Biostatistics Congress n=31	ERCIM 2012 n=27	p value		
Related presentation was not sent to any journal to be published. (I)	16 (51.60%)	5 (18.50%)	0.009		
Related presentation was sent to a journal, now it is in under review process. (II)	3 (9.70%)	5 (18.50%)	0.453		
Research on related presentation continues, therefore not reached to the stage of being published. (III)	6 (19.40%)	3 (11.10%)	0.481		
Related presentation was accepted to be published in the journal / it was published. (IV)	6 (19.40%)	14 (51.90%)	0.009		

TABLE 2: Comparison based on whether the presentation is published in the journal that covered by statistics field indexes or not.				
	14th National Biostatistics Congress	ERCIM 2012		
	n=6	n=14	p value	
Statistics field indexes	3 (50.00%)	6 (42.90%)	1.000	
Other indexes*	3 (50.00%)	8 (57.10%)	1.000	

* SCI: Science Citation Index; SCI Expanded: Science Citation Index Expanded; SSCI: Social Science Citation Index.

TABLE 3: C	Comparison based on whether the presentation is published in the journal that covered by SCI, SCI Expanded	
and SSCI ⁺ indexes or not.		

	14th National Biostatistics Congress	ERCIM 2012		
	n=6	n=14	p value	
SCI, SCI-Expanded and SSCI*	1 (16.70%)	5 (35.70%)	0.613	
Other indexes	5 (83.30%)	9 (64.30%)		

SCI: Science Citation Index; SCI Expanded: Science Citation Index Expanded; SSCI: Social Science Citation Index

journal covered by statistics field indexed or not (Table 2).

No significant difference in terms of indexes was found betwen congresses (Table 3).

DISCUSSION

Congresses the last stop of the scientific publication process take a place as a penultimate point in academic process. Recently, there heve been concerns raised about low publication rates among presented studies in congress.⁵ Process of presentations that turned into the publication presented at the congresses is harder and longer than preparation of an abstract for a congress. In addition, abstracts presented at congress can not be followed in stage of being published.

Many unpublished works were probably initially intended for publication.⁶ The reasons for not publishing abstracts are multifactorial.⁷ The publishing process for an article is considerably dif-

ferent from accepting a paper for presented presentation at scientific meeting.8 Preparation of abstracts for a congress takes much less time and effort for preparation a manuscript. The primary reason cited by investigators for failure to publish an abstract was "lack of time" for manuscript preparation.9 A study examining time-topublication of randomized efficacy trials found that the median time-to-publication was 0.8 years after submission (interquartile range 0.6-1.4 years).¹⁰ There is evidence to suggest that researchers submit to journals with high impact factors first and, if rejected, will re-submit to journals with lower impact factors.¹¹ In addition, Lim et al. stated that there is possibility of failure in publication, which may be caused by a variety of reasons such as lack of peer review, insufficient data, statistical limitation, and insignificant outcome of study.4

Unlike other studies placed in literature in present study, presentations of two congresses are considered rather than one congress and between congresses comparisons were made based on publication following criterias: rates, whether journal that presentation was published covered by statistics field indexes and covered by SCI, SCI Expanded and SSCI indexes or not. Our study shows differences between two congresses according to the rate of unsent presented works for publishing and the rate of accepted/published presentations as an article that submitted to the journal is statistically significant. When the unsent rate of the presentations were examined between two congresses it is observed that the rate of national congress (51.60%) is higher than the international congress (18.50%) whereas the accepted/published rate of the international congress (51.90%) is higher than the national congress (19.40%). Again when the congresses are compared in the view of accepted/published rate, since the number of participants who are expert on the globally special topics are higher in international congress, therefore it can be concluded that accepted/published rate is higher in international congress than national congress. The higher rate of sent and accepted/published presentations can be arised from the numerous number of sub-area experts who participate international congress. When it is examined in this aspect, since more than half of the presentations in national congress are not found adequate for sending to publication, this situation also reflects the answer of the following question "Do we follow adequately the global improvements of Biostatistics?".

There were no differences found between congresses according to the rest of criterias which given in Table 1-3.

Calculating the abstract to publication rate may be useful in judging the quantity and quality of research within our specialty.² Although publication rate for the ERCIM 2012 (51.90%) is similar to European Society for Pediatric Urology 2003-2010 (47.00%), publication rate for 14th National Biostatistics Congress (19.40%) is much more lower than European Society for Pediatric Urology.¹² In addition, Chand et al.¹ is stated that 28% of abstracts were published as full peerreviewed journal articles at Cardiac Society of Australia and New Zealand (1999-2005). Also Lim et al. analyzed 1.027 abstracts presented at the 2008 and 2009 annual Korean Academy of Rehabilitation Medicine meetings, in which 317 abstracts (30.87%) were published as full journal articles.⁴ Therefore it can be concluded that publication rate of the present study is higher than the similar studies placed in literature.

Response rate of our study is 16.62%. Perhaps one of the main limitations of this study is the low response rate. When the similar studies are considered the response rates of web surveys changes between 4.00% and 21.5%, Russell et al. reported the response rate of 4.00%, Swetz et al. reported the response rate of 4.00%, Kim et al. reported the response rate of 9.00%, Ocakoglu et al. reported the response rate of 9.10%, Sivolella et al. reported the response rate of 11.80% and Sax et al. reported the response rate of 21.50, therefore the response rate of our study is acceptable (16.62%).¹³⁻¹⁸ The low response rate is not surprising given that response rates to surveys have declined dramatically over time due to the proliferation of junk mail, the rapid growth and ease of large-scale surveys, and resulting complaints that people feel "bombarded" with Internet-based surveys despite increasing demands on their time.¹⁹

Even if all of the presentations presented at the congress is not published, importance of congress is undeniable by the reason of scientific-social communications made at congress and meetings where new ideas are born. On the other hand, although enough time passes for a presentation is published after a congress, the rate of unpublished presentation is seemed to be relatively high (51.60%) at national congress.

- Chand V, Rosenfeldt FL, Pepe S. The publication rate and impact of abstracts presented at the Cardiac Society of Australia and New Zealand (1999-2005). Heart Lung Circ 2008;17(5):375-9.
- Macmillan CD, Moore AK, Cook RJ, Pedley DK. Abstract-to-publication ratio for papers presented at scientific meetings: a quality marker for UK emergency medicine research. Emerg Med J 2007;24(6):425-6.
- Davies MW, Dunster KR, East CE, Lingwood BE. Fate of abstracts published in the proceedings of the first annual Perinatal Society of Australia and New Zealand Congress in 1997. J Paediatr Child Health 2002;38(5):501-6.
- Yoon PD, Chalasani V, Woo HH. Conversion rates of abstracts presented at the Urological Society of Australia and New Zealand (USANZ) Annual Scientific Meeting into full-text journal articles. BJU Int 2012;110(4):485-9.
- Lim JK, Han JY, Lee HC, Lee J, Chung H, Kim JM, et al. Analysis of publication status of abstracts presented at the annual meeting of the Korean Academy of Rehabilitation Medicine. Ann Rehabil Med 2013;37(3):413-9.
- Bydder SA, Joseph DJ, Spry NA. Publication rates of abstracts presented at annual scientific meetings: how does the Royal Australian and New Zealand College of Radiologists compare? Australas Radiol 2004; 48(1):25-8.

REFERENCES

- Weber EJ, Callaham ML, Wears RL, Barton C, Young G. Unpublished research form a medical speciality meeting: why investigators fail to publish. JAMA 1988;280(3):257-9.
- Autorino R, Quarto G, Di Lorenzo G, Giugliano F, Quattrone C, Neri F, et al. What Happens to the abstracts presented at the Societè Internationale d'Urologie meeting? Urology 2008;71(3):367-71.
- Dickersin K, Min YI, Meinert CL. Factors influencing publication of research results. Follow-up of applications submitted to two institutional review boards. JAMA 1992;267(3):374-8.
- Ioannidis JP. Effect of the statistical significance of results on the time to completion and publication of randomized efficacy trials. JAMA 1998;279(4):281-6.
- Goldman L, Loscalzo A. Fate of cardiology research originally published in abstract form. N Engl J Med 1980;303(5):255-9.
- Castagnetti M, Subramaniam R, El-Ghoneimi A. Abstracts presented at the European Society for Pediatric Urology (ESPU) meetings (2003-2010): characteristics and outcome. J Pediatr Urol 2014;10(2):355-60.
- Russell RA, Meyer MT, Scanlon MC, Rice TB. The state of telemedicine in Wisconsin. WMJ 2013;112(4):152-3.

- Swetz KM, Cook KE, Ottenberg AL, Chang N, Mueller PS. Clinicians' attitudes regarding withdrawal of left ventricular assist devices in patients approaching the end of life. Eur J Heart Fail 2013;15(11):1262-6.
- Kim HL, Hollowell CM, Patel RV, Bales GT, Clayman RV, Gerber GS. Use of new technology in endourology and laparoscopy by american urologists: internet and postal survey. Urology 2000;56(5):760-5.
- Ocakoglu G, Ercan I, Gunel Karadeniz P. Knowledge of dentists about biostatistics: a worldwide survey. e-Journal of Dentistry 2013;3(2):361-70.
- Sivolella S, Boccuzzo G, Gasparini E, De Conti G, Berengo M. Assessing the need for computed tomography for lowerthird-molar extraction: a survey among 322 dentists. Radiol Med 2011;117(1):112-24.
- Sax LJ, Gilmartin SK, Bryant AN. Assessing response rates and nonresponse bias in web and paper surveys. Res High Educ 2003; 44(4):409-32.
- Polychronopoulou A, Eliades T, Taoufik K, Papadopoulos MA, Athanasiou AE. Knowledge of European orthodontic postgraduate students on biostatistics. Eur J Orthod 2011; 33(4):434-40.