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Publication Fate of Abstracts Presented at Four British Surgical Meetings: An 11-y Follow-up

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ABSTRACT

Background: The gold standard for research is publication within a peer-reviewed journal. There is a discrepancy between the number of abstracts presented at scientific meetings and the number published as full articles. We identified publication rates for the 2012 meetings of four British surgical societies. These were the Association of Surgeons of Great Britain & Ireland (ASGBI), the Vascular Society of Great Britain and Ireland, the British Transplantation Society (BTS), and the Association of Coloproctology of Great Britain and Ireland (ACPGBI). We also compared publication rates with these societies' 2001 meetings and identified univariate factors associated with publication.

Materials and methods: PubMed was searched to identify publications stemming from meeting abstracts. We extracted abstract characteristics to identify factors associated with publication and also characteristics of subsequent publications to enable comparison.

Results: Publication rates were 24.1% (ASGBI), 24.6% (BTS), 21.7% (ACPGBI), and 39.4% (Vascular Society of Great Britain and Ireland). Rates for ASGBI, BTS, and ACPGBI meetings were significantly lower compared to 2001 meetings ($P = 0.001$-0.026). Mean time to publication was 12.1-22.0 mo. Mean 5-y impact factor differed significantly between meetings ($P = 0.001$), with the BTS meeting having the highest mean 5-y impact factor (4.658). Factors associated with publication included being an oral presentation (ASGBI $P = 0.001$), multi-institution study (ASGBI $P = 0.003$), or randomized-controlled trial (BTS $P = 0.049$).

Conclusions: Reduced publication rates may represent increased acceptance of low-quality abstracts at meetings or a more competitive journal submission process. Further data are required to strengthen conclusions. Nonetheless, authors and meeting organizers should push for higher quality abstracts to promote future peer-reviewed journal publication.

Introduction

Scientific meetings act as forums for presenting, debating, and educating fellow academics about new research. The prestige and influence of a meeting can be assessed by the future publication of presented abstracts.[1] Although acceptance of an abstract for presentation at these meetings is important, the gold standard for research is publication within a peer-

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reviewed journal. This is due to difficulty in assessing abstract validity because only limited information can be presented in several hundred words. Ultimately, however, there is a significant discrepancy in the number of abstracts presented and those that are subsequently published.[1] This impacts the push for evidence-based medicine as systematic reviews and meta-analyses, and hence subsequent clinical recommendations, are unable to include data from meeting abstracts alone. Furthermore, when patients are involved in a study, it is arguably unethical not to publish the full clinical data presented in these abstracts.[2]

Four such major annual surgical meetings in the United Kingdom are the Association of Surgeons of Great Britain & Ireland (ASGBI), the British Transplantation Society (BTS), the Association of Coloproctology of Great Britain and Ireland (ACPGBI), and the Vascular Society of Great Britain and Ireland (VSGBI). All are 3-d conferences that attract hundreds to thousands of delegates. Each meeting encourages submission of abstracts related to any aspect of their respective specialty, including basic and translational science, clinical studies, and educational studies. The ASGBI represents general surgery and uses the *British Journal of Surgery* as its official journal. The BTS represents transplant medicine and surgery but does not have an official journal. The ACPGBI represents colorectal surgery, and uses *Colorectal Disease* as its official journal, although its annual meeting abstracts are published in the *British Journal of Surgery*. The VSGBI represents vascular surgery and does not have an official journal. None of these meetings necessitates mandatory submission of abstracts to journals for publication after meeting presentation.

How prevalent is this issue of unpublished abstracts and what are the reasons for it? We aimed to analyze abstracts presented at these four meetings in 2012 to assess if and why these abstracts have low publication rates at 5 y after meeting. Indeed, a previous study analyzed the publication fates of abstracts presented at these four meetings in 2001.[3] This study found that most abstracts presented were not published at 2 y after meeting. We also aimed to compare our results with this study to assess for any differences between 2001 and 2012, and the reasons for them.

Material and methods

Identification of abstracts

Abstracts were obtained through *British Journal of Surgery* journal supplements for ASGBI, VSGBI, and ACPGBI meetings. BTS meeting abstracts were obtained from the organization's website.

The following data were extracted from each abstract: title, subject category, country of origin (of the first author; if United Kingdom, the city was also extracted), single- or multi-institution study, type of presentation (oral, poster, video), and study type. Study type was categorized as one of the following:

1. Randomized-controlled trial (RCT): an interventional study where participants are randomized to either a treatment or control arm;
2. Non-RCT clinical study: this includes observational or interventional studies involving patients not meeting RCT criteria, such as a case-control or cohort study;
3. Basic science study: a study that analyzes natural phenomena to better understand disease processes;
4. Translational science study: a study that uses the results of basic science studies to develop and test new interventions in a cell or animal model;
5. Educational study: a study discussing education of health care professionals;
6. Miscellaneous studies: a study not meeting criteria for other study types, including systematic reviews, cost-analysis studies, and health care management studies.

Identifying subsequent publications

Figure 1 shows our search algorithm to identify publications stemming from presented abstracts. Searches and data extraction were carried out by all authors. PubMed searches were performed in January 2018. We used the following criteria to determine if a full-text article corresponded to a meeting abstract:

1. The final publication was published before December 31, 2017;
2. The final publication is an original study. Letters to the editor, editorials, and review articles were excluded unless the original study was a review or the data within the meeting abstracts were clearly presented in the full-text article;
3. At least one author on the original abstract is an author on the final publication;
4. The study design of the final publication is identical or nearly identical to that of the meeting abstract;
5. At least one conclusion of the meeting abstract has been reached in the abstract of the final publication.

If, on reviewing a final publication's abstract, there was any ambiguity regarding eligibility, the full-text article was accessed and reviewed to determine eligibility. When an eligible publication was identified, its journal and date of publication were recorded. To assess journal quality, we also obtained the mean 5-y (2013-2017) journal impact factor (IF) for each journal, listed as part of its Journal Citation Report (Clarivate Analytics, Philadelphia, PA).

Statistics

Oral, poster, and video presentation rate from each meeting was compared using the chi square test. Kaplan-Meier hazard curves were used to show the time to publication for presentations at each meeting. The Cox proportional hazards model was used to compare publication rates. The ACPGBI meeting was used as the indicator for this (hazard ratio = 1). The mean 5-y IF of journals was compared using Kruskal-Wallis and Mann-Whitney U tests. Binomial logistic regression was used for univariate analysis to identify factors (subject category, country of origin, single-/multi-institution, study type, presentation type) associated with subsequent publication.