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Short communication

Publication rates of podium and poster abstract presentations at the 2010 and 2011 society of gynecologic oncology conferences

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ABSTRACT

Objective: This study aimed to determine the publication rate of oral and poster abstracts presented at the 2010 and 2011 Society of Gynecologic Oncology (SGO) conferences as well as the journals that most commonly published these studies, their 5-year impact factor, the time to publication, and the reasons for nonpublication.
Methods: Abstracts presented at the 2010–2011 SGO conferences were included in this study. We searched Google, Google Scholar, and PubMed to locate published reports of these abstracts. If an abstract's full-text manuscript could not be located, an author of the conference abstract was contacted via email to inquire whether the research was published. If the research was unpublished, the authors were asked to provide the reason for nonpublication. The time to publication, journal, and journal impact factor were noted for abstracts that reached full-text publication.
Results: A total of 725 abstracts were identified, of which 386 (53%) reached publication in a peer-reviewed journal. Oral presentations were published at a higher rate than poster presentations. Most (70%) reached publication within 2 years of abstract presentation. Abstracts were published in 89 journals, but most (39%) were published in Gynecologic Oncology. The mean time to publication was 15.7 months, with a mean 5-year impact factor of 4.956.
Conclusions: A 53% publication rate indicates that the SGO conference selection process favors research likely to be published and, thus, presumably of high quality. The overall publication rate is higher than that reported for many other biomedical conferences.

1. Introduction

The Centers for Disease Control and Prevention reports that 415,787 deaths due to female genital system cancers occurred in the United States and Puerto Rico from 1999 to 2013 (United States and Puerto Rico Cancer Statistics, n.d.). According to the National Cancer Institute, the national expenditures for gynecologic cancer care were over $9.92 billion dollars in 2010 and are projected to be over $12.15 billion dollars in 2020 (National Expenditure for Cancer Sites|Cancer Prevalence and Cost of Care Projections, n.d.; Mariotto et al., 2011). Thus, the national gynecologic cancer care costs are significant and increasing.

In this study, we evaluate the full-text publication rates of research abstracts presented at the 2010 and 2011 SGO Annual Meetings, determine the length of time to publication, and identify the journals that most commonly published these studies. For unpublished abstracts, authors were contacted and asked about reasons for nonpublication.

2. Methods

2.1. Oversight and reporting

This study did not meet the regulatory definition of human subjects research as defined in 45 CFR 46.102(d) and (f) of the Department of Health and Human Services' Code of Federal Regulations and therefore was not subject to Institutional Review Board oversight. We applied relevant Statistical Analyses and Methods in the Published Literature (SAMPL) guidelines for reporting descriptive statistics. We developed our methodology by consulting previous studies on rates of publication of conference abstracts (Kinsella et al., 2015).

2.2. Locating conference abstracts

We located the SGO abstracts from 2010 and 2011 by using ScienceDirect.com and by accessing supplemental issues of *Gynecologic Oncology*. This time period was selected based on previous literature

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describing the need to allow adequate time for a conference abstract to be published (Durinka et al., 2016). After locating the SGO abstracts, we began the search process.

2.3. Search strategy for published manuscripts of conference abstracts

We attempted to locate the published report of conference abstracts using a predefined search algorithm (Appendix A1). The search algorithm was developed by 2 investigators (JS and MV) and pilot tested on 25 abstracts. We assessed the optimal order in which to search databases (e.g., Google first, Google Scholar second, and PubMed third). We also varied the searches using combinations of keywords and author names as well as full title searches to determine which strategy would provide the greatest precision to locate published reports. Ultimately, our search was completed using 3 databases: PubMed, Google Scholar, and Google. The search was conducted from June to July 2017. One investigator (SI) first searched these databases using the full conference abstract title. If this strategy failed to locate a published report, SI performed the search using the first author's last name and keywords from the abstract. If SI was unable to locate a published report for an abstract, second and third investigators (GM and NN) repeated the search strategy.

If, after all searches, no publication had been located, SI sent a standardized email to an author of the conference abstract (Appendix A2). Authors were contacted once. This email provided authors with the opportunity to comment on whether the study was published, and if so, to provide the reference for the publication. In the event that an abstract was not published, abstract authors were asked to provide a reason for nonpublication. Our standardized response options for nonpublication were based on a systematic review by Song et al. that analyzed 38 survey reports on investigator-reported reasons for nonpublication (Song et al., 2014).

2.4. Data collection

After locating a published study thought to be a conference abstract, we compared the author list, methods, and results between them. If at least 2 of the following criteria were met, we counted the abstract as published: (1) results from the published report matched the results in the conference abstract, (2) methodology from the published report was similar to the methodology described in the conference abstract, and (3) the first author of the conference abstract was included in the author list of the published study.

Data were extracted from the published study by SI, using a standardized, prespecified, and piloted Google Form. We extracted the following information: publication title, institution of first author, journal name, and journal impact factor. When available, date submitted to journal, date accepted for publication, date of in print publication, and date of online publication were extracted. We calculated the time to publication based on the number of months between the first date of the conference and the date accepted for publication or publication date in print or online, whichever occurred first. We used a negative number of months, when necessary, to indicate studies for which publication occurred prior to conference commencement. All data analyses were performed using Microsoft Excel.

2.5. Results

A total of 725 abstracts were presented at the 2010 and 2011 SGO Annual Meetings and 386 (53%) reached publication, with a mean time to publication of 15.7 months. The overall publication rate decreased slightly from 55% in 2010 to 50% in 2011. For 2010, the mean time to publication was 17.1 months, and 89% of oral presentations reached publication compared with 50% of poster presentations. The majority of presentations that reached publication (71%) did so within 2 years, while 16 presentations were published prior to their presentation date. For 2011, the mean time to publication decreased to 13.7 months. More oral presentations (65%) reached publication than poster presentations (42%). A total of 69% were published within 2 years. Sixteen presentations were published prior to their presentation date.

Full-text manuscripts of presented abstracts were published in 89 different journals. However, SGO research was published in some journals, such as *Gynecologic Oncology* (39%), *Obstetrics and Gynecology* (7%), and *International Journal Gynecological Cancer* (7%) more frequently than others most. With a wide range of impact factors, from 0 to 64.201, the average 5-year impact factor of journals publishing SGO studies was 4.956.

Full-text manuscripts were not located for 354 abstract presentations. Some authors were associated with more than one abstract; therefore, 304 emails were sent to inquire about the fate of presented abstracts. An email address was not identified for any of the authors of 37 abstracts, and 78 emails were returned as invalid. A total of 30 responses were received from authors: 15 provided citation information and 15 provided reasons for nonpublication (Appendix A3). The most common reasons for nonpublication were lack of time (5), low priority (3), study manuscript being in preparation or under review (3), and results not important enough (2).

3. Discussion

The aim of this study was to determine the publication rate of podium and poster abstracts presented at the SGO conferences that took place in 2010 and 2011. Additionally, we identified the journals most commonly publishing these studies, their 5-year impact factor, the time to publication, and the reasons for nonpublication. Presentations at scientific meetings allow for dissemination of current research to large audiences. This information can provoke ideas for future research endeavors and be used for clinical decision-making; therefore, it is imperative that the research presented is of high quality and relevance. Given that the epidemiology of gynecological cancers is difficult to study and that cervical cancer is the fourth most common type of cancer in women (Reynoso-Noverón et al., 2017), despite being preventable, the research findings presented at SGO conferences may influence the health care of a substantial number of women.

The publication rate of a conference can be used to assess the quality of the presented research because high-quality research tends to lead to full-text, peer-reviewed publication (Macdonald et al., 2012; Durinka et al., 2014; Khajehnoori et al., 2017; Jamjoom et al., 2015).

According to our results, 53% of presented abstracts reached publication as full-length manuscripts. This rate compares favorably with the 44.5% mean rate of full publication reported in a Cochrane review of publication rates for 79 different biomedical conferences (Scherer et al., 1994). It is also higher than that reported for many other biomedical society conferences, which demonstrates the educational value of SGO conferences and the depth of the research presented.

The impact factor of *Gynecologic Oncology*, which publishes the majority of full-text manuscripts of SGO abstracts (39%), has increased from 3.760 in 2010 to 4.959 in 2016 (Reuters, n.d.), indicating its increasing significance in the field of obstetrics and gynecology.

As indicated by our data, a higher percentage of oral presentations (89% in 2010 and 65% in 2011) reached publication than poster presentations. This outcome is consistent with other findings associating oral presentations with subsequent full-text publication (Gilbert and Pitkin, 2004; von Elm et al., 2003; Carroll et al., 2003; Frank et al., 2017). These data suggest a difference in the caliber of poster and podium presentations. Society of Gynecologic Oncology should consider these results when exploring ways to further improve the quality of research abstracts presented. Establishing requirements for poster presentations similar to those set for podium presentations would be an appropriate response to low publication rates. Furthermore, the peer-review process that determines abstract acceptance for scientific conferences may be less thorough than the peer-review that determines

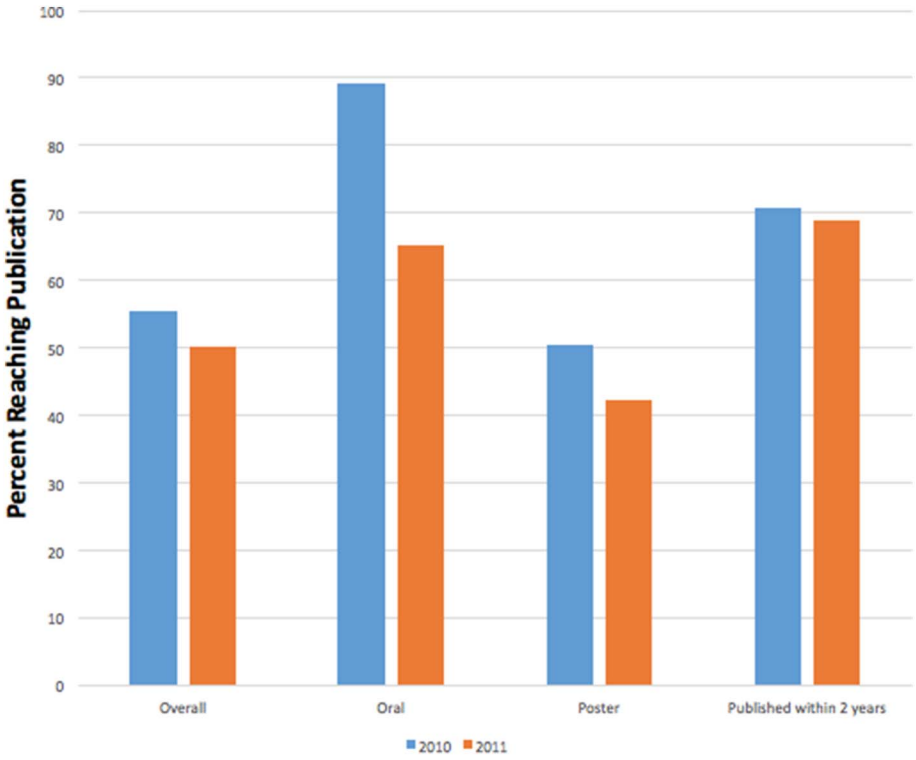

Fig. 1. Publication rate stratified by conference year and presentation type.

manuscript publication. Therefore, establishing a more stringent peer-review process for abstract selection may also increase publication rates. Since non-submission has been cited as a common reason for nonpublication (Carroll et al., 2003), medical societies should encourage researchers to complete their studies and submit them for full-text publication.

It is important to recognize that many of the presented results may be preliminary and that the abstract-to-published manuscript rate is 53%. Therefore, readers and the medical society should exercise caution when interpreting information presented at scientific conferences, such as the SGO Annual Meetings. Readers should reference published data as abstracts may contain interim data. Authors should be reluctant to cite meeting abstracts when writing manuscripts.

In order to optimize the likelihood that abstracts reach full-text publication, other medical societies have suggested being more selective in the acceptance of abstracts for presentation at their annual meetings by paying greater attention to quality measures such as sample size and data analysis, study design, outcomes, and instrument validity (Sawatsky et al., 2015; Meral et al., 2017). Involvement of multiple institutions, use of validated instruments and appropriate statistical analysis, prospective study design, and reporting new findings (as opposed to confirmatory investigations) are factors that indicate eventual publication (Gilbert and Pitkin, 2004; Sawatsky et al., 2015; Meral et al., 2017).

Based on our results, the most common underlying reasons for nonpublication in a limited subset were lack of time, low priority, and the study manuscript being in preparation or under review. Readers should be cautious not to generalize these findings to a larger group due to the small sample of respondents. Similarly, lack of time, low priority, co-investigators leaving the institution, unimportant or uninteresting results, study manuscript drafted or under review, and inadequate resources have been reported as reasons for nonpublication, with lack of time being the most commonly stated reason (Easterbrook et al., 1991; Dickersin et al., 1992; Scherer et al., 2015; Balasubramanian et al., 2006).

In summary, the SGO abstract selection process seems to be adequate in identifying high quality research and those most likely to reach full-text publication since its 53% abstract-to-publication rate is higher than that reported for many other medical conferences. However, the potential differences between poster and oral presentations' quality and the preliminary nature of many presented results should also be noted when considering changes in clinical practice according to abstract presentations. Our analysis adds to an improved understanding of how scientific data are disseminated and the credence that can be given to results presented in abstract presentations at scientific meetings.

4. Limitations

Although every effort was made to obtain author email addresses and make contact, we were unable to find a valid email address for authors of 115 presentations. Only Google, Google Scholar, and PubMed were used to find publications, therefore, studies indexed in other databases that are not searchable by Google may have been missed. However, given the exhaustive search and the efforts to email the authors, the number of omissions is likely very small. Despite our careful attempts, some factors made it challenging for our algorithm to find all full-text publications of presented abstracts. Some abstracts reached full-text publication under drastically different titles. For some, one or more authors had changed between abstract-to-publication. For others, the results presented in the abstract were either published as a part of a larger research project or published, in part, in more than one manuscript. Considering that 70% of abstracts reached publication within 2 years of their conference and the meetings were held 6 to 7 years prior to when we gathered our data in June and July 2017, our search interval was likely adequate Fig. 1.

We do not have any conflicts of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.gore.2018.02.001.

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