



REVIEW ARTICLE

Thirty percent of abstracts presented at dental conferences are published in full: a systematic review

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Abstract

Objectives: To review the publication fate of abstracts presented at dental conferences and investigate the association between full publication proportion (FPP) and abstract characteristics, conference characteristics, and methodological quality of primary studies.

Study Design and Setting: PubMed, EMBASE, and Google Scholar were searched up to November 2014 for studies that reported at least one FPP of abstracts presented at dental conferences, with a follow-up length of no less than 48 months.

Results: Sixteen studies involving 10,365 abstracts presented at 52 conferences were included. The pooled FPP was 29.62% (95% confidence interval: 22.90%, 36.81%) for all presented abstracts and 51.97% (95% confidence interval: 43.19%, 60.70%) for randomized controlled trial abstracts. Abstract characteristics significantly associated with higher FPP included reporting of statistical analysis ($P < 0.001$), oral presentation ($P < 0.001$), basic science research ($P = 0.047$), and reporting of financial support ($P = 0.009$). Abstracts with positive ($P = 0.29$) or statistically significant results ($P = 0.33$) were not published more often than negative or nonsignificant results, respectively. In multivariable meta-regression analysis, conferences held in Asia ($P < 0.001$) and at a continental rather than national level ($P < 0.001$) were significantly associated with higher FPP.

Conclusions: Less than one-third of abstracts presented at dental conferences were published in full more than 4 years after conference presentation. © 2016 Elsevier Inc. All rights reserved.

Keywords: Meeting abstracts; Publication bias; Publishing; Dentistry; Posters; Meta-analysis

1. Introduction

Scientific conferences are important forums for early communication and dissemination of novel research findings [1,2]. Often referred to and cited in meta-analyses [3] and clinical textbooks [4], abstracts presented at medical conferences can have a substantial impact on the evidence base and clinical practice. However, conference abstracts are usually difficult to locate and access, present preliminary or partial results, lack details needed for critical appraisal, and have not undergone rigorous peer review [4–8]. Thus, full-length publications in peer-reviewed journals are commonly considered the

expected outcome of conference presentations and end point of high-quality research [1,9,10].

Additionally, the Declaration of Helsinki states that “researchers have a duty to make publicly available the results of their research on human subjects and are accountable for the completeness and accuracy of their reports” [11]. Both nonpublication and excessive delay in the full publication of medical research are unethical and forms of unscientific misconduct [12,13], which lead to an avoidable waste of billions of dollars invested [14].

In publication fate studies, full publication proportion (FPP), the proportion of abstracts presented at conferences that have resulted in full publication, and its predictors have been widely used as indicators of the quality of conferences and presented research, as well as measures of potential publication bias [6,15,16]. Two systematic reviews with search dates in 2001 and 2003 reported that the FPP of abstracts presented at biomedical conferences ranged from 8% to 81%, with a weighted mean value of 44.5%; several abstract characteristics (positive results, oral presentation, randomized trial study design, basic science research) and

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What is new?**Key findings**

- Less than one-third of abstracts presented at dental conferences were published in full more than 4 years after conference presentation.
- Abstracts that were presented orally, reported statistical analyses, covered basic science research, and reported sources of funding were significantly more likely to be published.
- No evidence of positive outcome bias was found at this stage of research dissemination.
- The location (by continent) and level (national/continental/international) of conferences were significantly associated with full publication.

What this adds to what was known?

- This study systematically reviews all primary studies regarding the publication fate of abstracts presented at dental conferences and, by using multivariable meta-regression, provides insight into the influence of conference characteristics and methodological quality (of primary studies) as predictors of full publication.
- It adds to the body of evidence that many conference abstracts are never published in full.

What is the implication and what should change now?

- A substantial volume of primary research remains unpublished as a full publication. Nonpublication and excessive delay in the full publication of medical research are forms of unscientific and unethical misconduct. Efforts should be made to address these issues and reduce the relevant research waste.
- When analyzing predictors of full publication, future research regarding the publication fate of conference abstracts should control for the level and location of conferences.

conference characteristics (held in the United States, smaller size) were found to be significantly associated with higher FPP in univariate analyses [17,18].

In recent years, there have been many studies investigating the publication fate of abstracts presented at dental conferences [19–27]. These, however, have not been analyzed in an integrated approach. In addition, although many studies with long follow-up supported a follow-up length of at least 4 to 5 years for publication fate research [2,19,26,28], previous systematic reviews regarding

publication fate had no strict eligibility criterion in terms of follow-up length (minimum follow-up of included studies: 8 months to 2 years) [17,18,29]. In addition, no previous research has studied the influence of different methodological approaches used in a publication fate study on the FPP obtained [17]. This study uses multivariable meta-regression to analyze study-level factors (conference characteristics, methodological quality) and sets an inclusion criterion of having at least 48-month follow-up from the date of conference.

Therefore, the objectives of this review were to systematically review the publication fate (FPP and the time lag from conference to full publication) of abstracts presented at dental conferences, determined at least 48 months after the conferences, and to investigate the association between FPP and abstract characteristics, conference characteristics, as well as the methodological quality of publication fate studies.

2. Methods

This review was written in accordance with the MOOSE [30] and PRISMA [31] guidelines for reporting systematic reviews. Unless specified as post hoc, all methods were determined a priori.

2.1. Data sources and searches

An electronic search of MEDLINE (via PubMed), EMBASE (via OVID), and Google Scholar was conducted on November 23, 2014, with guidance from the Trials Search Coordinator (Anne Littlewood) of the Cochrane Oral Health Group. The full search strategy is shown in Appendix A/Appendix at www.jclinepi.com. No restrictions for language or publication date were applied. In addition, after the initial study selection process, supplementary searches were performed by checking the reference lists of remaining key articles and studies that cited these key articles, using Google Scholar, Scopus, and Web of Science.

2.2. Eligibility criteria

We sought to identify all original studies investigating the publication fate of abstracts presented at one or more dental academic conferences. Studies were included if: (1) at least one FPP was provided or could be calculated (based on the study report or communication with the authors); (2) the conference being studied was on dentistry in general or any subspecialty of dentistry; and (3) the determination of full publication was made at least 48 months after the abstract presentation date. If a study investigated multiple conferences, only conferences that met our eligibility criteria were included. Studies that only focused on abstracts presented by authors from certain specific institutions or geographic regions were deemed unrepresentative and therefore excluded.

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