Unpublished Research From a Medical Specialty Meeting

Why Investigators Fail to Publish

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Context.—It is not known whether peer review of research abstracts submitted to scientific meetings influences subsequent attempts at publication.

Objective.—To determine why research submitted to a scientific meeting is not subsequently published. We hypothesized that authors of abstracts rejected by a meeting are less likely to pursue publication than those whose abstracts are accepted, regardless of research quality.

Design and Participants.—Blinded review of abstracts submitted to a medical specialty meeting in 1991 and not published as full manuscripts within 5 years. In 1996, authors of 266 unpublished studies were asked to complete questionnaires.

Main Outcome Measures.—Submission of a full manuscript to a journal between 1991 and 1996; failure to submit a manuscript to a journal because the investigator believed it would not be accepted for publication.

Results.—A total of 223 (84%) of the unpublished investigators returned the questionnaire. Only 44 (20%) had submitted manuscripts to a journal. Manuscript submission was not associated with abstract quality (odds ratio [OR], 1.16; 95% confidence interval [CI], 0.80-1.64), positive results (OR, 0.75; 95% CI, 0.31-1.57), or other study characteristics. Having an abstract accepted for presentation at the meeting weakly predicted submission of a manuscript to a journal (OR, 1.88; 95% CI, 0.84-4.10). Authors of accepted abstracts were significantly less likely to believe a journal would not publish their manuscript than were authors of rejected abstracts (OR, 0.23; 95% CI, 0.0001-0.61).

Conclusions.—Study characteristics do not predict attempts to publish research submitted to a scientific meeting. Investigators whose research is rejected by a meeting are pessimistic about chances for publication and may make less effort to publish.

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for a meeting influences subsequent efforts to publish a full manuscript.

The purpose of this study was to determine what factors influence an investigator’s attempts to publish research that was submitted to a scientific meeting. We hypothesized that authors of abstracts rejected by the meeting were less likely to pursue publication than those whose abstracts had been accepted, regardless of the study quality.

METHODS

We obtained copies of all abstracts submitted to the 21st annual meeting of the Society for Academic Emergency Medicine (SAEM) held in 1991. In November 1995 and again in March 1996, we searched MEDLINE, EMBASE, and the Cochrane Collaboration to identify which of these abstracts had been subsequently published in a peer-reviewed journal. A peer-reviewed publication was defined as a full-length manuscript (not letters or editorials) appearing in a journal that uses a process of external review. Multiple search strategies were used, beginning with several authors, and then, if necessary, combinations of authors, title, and keywords. Online abstracts were compared with the original abstract submitted to the SAEM meeting in 1991 when necessary to confirm the identity of the publication.

In October 1996, a questionnaire6,11 was mailed to the first author of each abstract for whom no publication was found in the search. The questionnaire asked whether the study had been published, and asked the author to provide a citation if it had been published. For unpublished research, authors were asked whether they had submitted a manuscript to a journal, and if not, they were asked to select a reason for not doing so. Investigators who did not respond within 3 months were sent another copy of the questionnaire. After 2 attempts, the questionnaire was sent to another author of the abstract and repeated in 3 months if necessary.

Research was considered unpublished if an article was not found in the search and either the responding author confirmed that the study was not published or no questionnaire was returned. Published studies, whether identified through the database search or the questionnaire, were excluded from further analysis.

Unpublished abstracts were randomly assigned to 2 of the investigators for classification of study characteristics.9 Reviewers were blinded with respect to author, submitting institution, and whether the abstract had been accepted for presentation at SAEM. Disagreements regarding study characteristics were resolved by a third investigator (M.L.C.). Reviewers assigned global ratings for scientific quality (overall scientific solidity) on a 5-point Likert scale and originality on a 3-point scale.12,13 The scores of the 2 reviewers were averaged. The intraclass correlation for scientific quality was 0.44 (95% confidence interval [CI], 0.37-0.51) and for originality was 0.29 (95% CI, 0.21-0.37).

The main outcomes were whether or not a manuscript was submitted to a journal (pursuit of publication) and whether or not authors who failed to submit a manuscript stated that a journal would be unlikely to accept it for publication (pessimism). Potential predictors were assessed by fitting a separate logistic regression model to each of these outcomes. The predictors were whether the abstract had been accepted or rejected for presentation at the meeting, quality and originality scores, whether or not the study was randomized, sample size, presence or absence of positive results, and submitting institution’s ordinal ranking in federal grant dollars.16 The presence or absence of positive results was noted for studies with a hypothesis and control group. Results were considered positive if the author reported that the intervention was more effective than the control2,6,13,17; statistical significance of the unpublished studies was not required. The statistical analysis was done using S-Plus, Version 3.3 (MathSoft Inc, Seattle, Wash).

RESULTS

Of the 492 studies submitted to SAEM in 1991, 266 (55%) were never published (Figure). Investigators completed questionnaires for 223 (94%) of the unpublished studies. Response rate did not differ for authors of abstracts rejected by the meeting and those accepted (P > .99). Abstracts of respondents and nonrespondents were similar in quality score (2.48 vs 2.33, P = .33) and originality (1.58 vs 1.56, P = .79).

Pursuit of Publication

A full manuscript had been submitted to a journal for 44 (20%) of the 223 unpublished studies, with a mean of 1.67 (SD, 0.95) submissions per study. No association was found between manuscript submission and study characteristics (Table 1). There was a trend suggesting that investigators whose abstracts had been accepted for presentation at the SAEM meeting were more likely to submit full manuscripts to a journal than those whose abstracts had been rejected by the meeting (odds ratio [OR], 1.88; 95% CI, 0.84-4.1).

Reasons for Failure to Publish

Among the 179 investigators who never submitted a full manuscript to a journal, the most common reason selected was lack of time (Table 2). Only 7 investigators said they did not submit a manuscript because the statistical analysis was not positive, even if the manuscript was rejected.
though 43 controlled studies had negative results.

Two variables predicted whether or not an investigator selected the response “thought journals unlikely to accept.” Authors of abstracts that had been accepted for the meeting chose this option significantly less frequently than those whose abstracts had been rejected (OR, 0.23; 95% CI, 0.0001-0.61). Authors from institutions ranking higher in federal grant dollars chose the response “journals unlikely to accept” (OR, 1.71; 95% CI, 1.2-2.9) more frequently than those from lower-ranking institutions. Study quality, originality, design, sample size, and the presence of a positive outcome did not predict whether or not an investigator chose this response.

COMMENT

Why are the results of many studies never published? Our findings confirm prior reports that most unpublished research is never submitted to a journal for review. Only 20% of the unpublished studies originally submitted to the SAEM meeting were later submitted as a full manuscript to a journal. Moreover, investigators were easily dissuaded, submitting a manuscript, on average, to fewer than 2 journals before giving up.

To our knowledge, the current study is the first to investigate the relationship among study characteristics, meeting decision, and an author’s efforts to publish research submitted to a scientific meeting. Authors whose abstracts were rejected from the meeting were significantly more pessimistic about the chances of publication, and there was also a trend suggesting that authors of rejected abstracts were less likely to pursue full publication. There was no association between publication efforts and study quality, originality, sample size, design, or results.

Unlike previous studies, we found no evidence of publication bias among our investigators. This is most likely because of the difference in study populations. Previous investigations focused on fully funded research projects from a single institution or fully funded randomized controlled trials, and are therefore representative of only a minority of unpublished research. The studies in our analysis came from 144 different institutions and included many projects that were not funded. Additionally, our population of researchers had all undergone the review process for a scientific meeting.

The 84% response rate for our questionnaire equals or surpasses that of other studies of unpublished research. In addition, abstracts of respondents and non-respondents were similar in quality, originality, and acceptance by SAEM. We identified with certainty the publication rate of 92% of all submitted abstracts. The SAEM meeting is comparable with the meetings of 31 other specialty societies with regard to attendance, number of abstracts submitted, and subsequent publication rate. The 5-year interval from submission may have influenced our ratings and the authors’ responses, but was necessary to allow ample time for publication.

For research submitted to scientific meetings, subsequent publication efforts are not predicted by the specifics of the research, but may be affected by the meeting’s decision to accept or reject the abstract. Investigators appear to be easily discouraged by rejection at both the meeting and journal stages of publication. Because failure to publish completed research affects medical practice, it is imperative that specialty societies understand the potential impact of their decisions and make additional efforts to encourage all investigators, not just those whose abstracts are accepted for presentation, to pursue full publication.

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References