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Stuck at the Abstract: Where Is the Manuscript?...

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Publication bias has been defined as the “tendency for investigators to submit manuscripts and of editors and reviewers to accept them, based on the strength and direction of the research findings” (1). Studies with positive findings have been shown to be published at higher rates, and faster, compared to those with negative findings (1, 2). Various criteria are used to define positive findings, but in general, these are results that are statistically significant, considered important, or showing a positive effect (1, 2). In a 2007 Cochrane review of 79 reports that analyzed a total of 29,729 abstracts presented at scientific meetings, the weighted mean abstract to full publication rate was 44.5% (2). Acceptance for oral presentations and randomized controlled trial results were found to be associated with increased likelihood of full publication (2). Publication rates vary amongst medical specialties following abstract presentations at scientific meetings, ranging from 34% to 59% (3–5).

Data on publication outcomes of pediatric critical care medicine (PCCM)-related abstracts have been essentially absent until now. In this issue of *Pediatric Critical Care Medicine*, Basu and Pollack attempted to fill this gap (6). The authors analyzed 267 abstracts presented at three major North American academic meetings organized by the American Academy of Pediatrics (AAP), Pediatric Academic Societies (PAS) and Society of Critical Care Medicine (SCCM), between 2007–2011 (6). Only 41% of all abstracts presented at these meetings were published in a peer review journal within five years. The mean time to publication was 19 months. Abstracts presented at PAS had higher rates of publication (54.1%), compared to SCCM and AAP (38% and 33%, respectively). Work presented in abstract form at SCCM meetings was published in journals with higher impact factor (mean, 3.38), compared to AAP and PAS (mean, 1.92 and 2.64, respectively). Subspecialties ranging from

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ophthalmology to radiology to orthopedic surgery have documented similar rates of abstracts that become published and mean time to publication (3, 4, 7). There have been very few reports from the field of pediatrics (8, 9) and to our knowledge, this is the first such report in the field of critical care.

PCCM is unique in the sense that it lacks a large conference dedicated exclusively to the subspecialty, although the annual Pediatric Critical Care Colloquium, which held its first meeting in 1986, has been growing steadily, with 226 participants and 51 abstracts presented at the 23rd meeting in the Fall of 2016 (10). PCCM has large sections at AAP, PAS and SCCM, which makes the selection of these three meetings for the Basu and Pollack study appropriate. With limited exceptions (4), most studies of abstract-to-manuscript success have evaluated data from a single conference (3, 9, 11). Including multiple meetings could be beneficial in eliminating potential bias stemming from a single conference's abstract acceptance rate, or location or timing of one particular meeting.

PCCM abstracts from SCCM significantly outnumbered abstracts from PAS and AAP by almost tenfold. Using a random number generator, the authors only included 10% (n=88) of PCCM abstracts presented at SCCM, aiming to obtain a similar sample size to the other two conferences. Given that presentation format was available for SCCM, using a larger sample size for this conference could have allowed a more detailed analysis. Previous studies have shown that podium presentations are about twice more likely to reach publication than poster presentations alone (12–14), suggesting that the quality of poster vs podium/oral presentations could be quite different.

The study attempted to compare the rates to publication by trainees (residents and fellows) to non-trainees, however only one of the conferences, and thus only 1/3 of the evaluated abstracts, had this information available. The authors brought up a unique discussion point regarding the quality of scholarly products completed during PCCM fellowship, when ~50% of time should be dedicated to research. The American Board of Pediatrics (ABP) broadly defines such scholarly products as “written work products” in which fellows must have played a substantial role (15). This definition leaves considerable room for interpretation and is usually at the discretion of the program's fellowship director. It was encouraging that, in this study, trainee status was not associated with publication rates or time to publication.

The looming question that the Basu and Pollack study leaves unanswered is why more than half of abstracts did not make it to publication in a peer reviewed journal. We do not know how many of these abstracts were submitted for publication and were rejected, and how many were never submitted for publication. Sprague et al conducted a study of abstracts presented at a major annual orthopedic academic meeting and found that 16% were submitted to peer review journals but were rejected, and 36% were never submitted for publication (11). The three leading reasons for never submitting work for publication were lack of time, research project still ongoing and difficulties with co-authors (11). Further study is needed to determine the reasons for non-publication of PCCM abstracts to delineate if the quality of the research, time constraints, or other factors are leading to a large amount of research that does not become disseminated beyond conference presentation.

There are a few other limitations to this study that the authors appropriately addressed. PCCM covers a range of pediatric illness, and while most pediatric ICUs are not separated into multiple sub-specializations similar to adult ICUs, many research projects are presented at specialized meetings (e.g., American Heart Association, American Thoracic Society, Extracorporeal Life Support Organization, Neurocritical Care Society, etc). Also, the search methodology used did not capture publications for which the first author of the abstract was removed all together. While this is likely to be an uncommon phenomenon, it leaves the possibility that some abstracts may have been incorrectly categorized as unpublished.

In conclusion, this is an interesting and intriguing study of the fate of PCCM abstracts presented at three major North American meetings. While the finding that less than half of abstracts were published within five years is somewhat concerning, this study provides the background data needed to further delve into potential reasons for non-publication. Investigating underlying reasons can potentially uncover solutions to improve publication rates with more widespread dissemination of research findings ultimately leading to improved patient care.

References

1. Hopewell S, Loudon K, Clarke MJ, et al. Publication bias in clinical trials due to statistical significance or direction of trial results. *Cochrane Database Syst Rev*. 2009; (1):MR000006. [PubMed: 19160345]
2. Scherer RW, Dickersin K, Langenberg P. Full publication of results initially presented in abstracts. A meta-analysis. *JAMA*. 1994; 272:158–162. [PubMed: 8015133]
3. Bhandari M, Devereaux PJ, Guyatt GH, et al. An observational study of orthopaedic abstracts and subsequent full-text publications. *J Bone Joint Surg Am*. 2002; 84-A:615–621. [PubMed: 11940624]
4. Shelmerdine SC, Lynch JO, Langan D, et al. Presentation to publication: Proportion of abstracts published for ESPR, SPR and IPR. *Pediatr Radiol*. 2016; 46:1371–1377. [PubMed: 27412152]
5. Klassen TP, Wiebe N, Russell K, et al. Abstracts of randomized controlled trials presented at the society for pediatric research meeting: An example of publication bias. *Arch Pediatr Adolesc Med*. 2002; 156:474–479. [PubMed: 11980553]
6. Basu SM. Outcome of pediatric critical care medicine abstracts presented at north american academic national meetings. *Pediatr Crit Care Med*. 2017 in press.
7. Okonkwo AC, Hogg HD, Figueiredo FC. An 8-year longitudinal analysis of UK ophthalmic publication rates. *Eye (Lond)*. 2016; 30:1433–1438. [PubMed: 27419837]
8. Carroll AE, Sox CM, Tarini BA, et al. Does presentation format at the pediatric academic societies' annual meeting predict subsequent publication? *Pediatrics*. 2003; 112:1238–1241. [PubMed: 14654591]
9. Klassen TP, Wiebe N, Russell K, et al. Abstracts of randomized controlled trials presented at the society for pediatric research meeting: An example of publication bias. *Arch Pediatr Adolesc Med*. 2002; 156:474–479. [PubMed: 11980553]
10. Pediatric critical care colloquium meeting minutes. Nov 12. 2016 <http://pedccc.com/PCCC%20SCM12-16-16.pdf> Edition
11. Sprague S, Bhandari M, Devereaux PJ, et al. Barriers to full-text publication following presentation of abstracts at annual orthopaedic meetings. *J Bone Joint Surg Am*. 2003; 85-A:158–163. [PubMed: 12533587]
12. Kinsella SD, Menge TJ, Anderson AF, et al. Publication rates of podium versus poster presentations at the american orthopaedic society for sports medicine meetings: 2006–2010. *Am J Sports Med*. 2015; 43:1255–1259. [PubMed: 25769534]

13. Frank RM, Cvetanovich GL, Collins MJ, et al. Publication rates of podium versus poster presentations at the arthroscopy association of north america meetings 2008–2012. *Arthroscopy*. 2017; 33:6–11. [PubMed: 27720529]
14. Williams BR, Kunas GC, Deland JT, et al. Publications rates for podium and poster presentations from the american orthopaedic foot & ankle society. *Foot Ankle Int*. 2017 1071100716688723.
15. [accessed march 2017] Principles regarding the assessment of scholarly activity. available at https://www.abp.org/content/scholarly-activity#work_product

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