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Research publication in pediatric surgery: a cross-sectional study of papers presented at the Canadian Association of Pediatric Surgeons and the American Pediatric Surgery Association

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Abstract

Introduction: Several studies have examined predictors of publication of research presented in scientific meetings in different disciplines. A tendency toward publishing studies with positive results has been described as "publication bias." Our objective was to determine the proportion of the studies that were published, time to publication, and factors that could predict publication in pediatric surgery.

Methods: The abstract books of the Canadian Association of Pediatric Surgeons and the American Pediatric Surgery Association meetings for 2001 to 2002 were reviewed. Data were gathered regarding the methodology and characteristics of each study. Case reports and editorials were excluded. A Medline search was then conducted to determine the publication status. Analysis using univariate and multivariate techniques was undertaken, comparing the difference between published and unpublished studies.

Results: Two hundred seven abstracts were reviewed. Of the 183 abstracts included, 118 (64.5%) were published. Most studies were published 1 year after presentation (93.2%). Presentation in the American Pediatric Surgery Association meeting and research originating from North America and reporting statistically significant results were significantly associated with subsequent publication on univariate analysis. The presence of statistically significant results was the only factor associated with successful publication on multivariate analysis (odds ratio, 3.3; confidence interval, 1.5-7.7).

Conclusion: The strong association between successful publication and the presence of statistically significant results point to the strong possibility of publication bias affecting decisions made about publishing research in the pediatric surgery.

Specialty scientific meetings are forums for exchange of ideas, dissemination of research, and knowledge transfer. After presentation in scientific meetings, publication of research in peer-reviewed journals remains the gold

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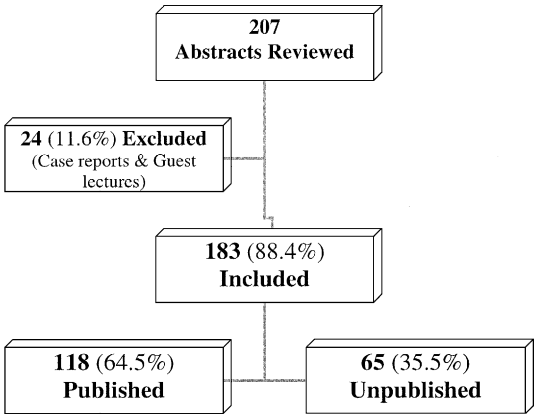

Fig. 1 Study outline.

standard for academic achievement and the assessment of the quality of new science and scientific inquiries [1].

Multiple factors have been documented in previous studies to influence research publication; they include the significance and direction of results. Underreporting of clinical research is a serious threat to the science accumulated in any discipline by biasing the body of evidence toward one therapy over another [1-7].

These factors have been shown to be significant in other disciplines such as internal medicine, gastroenterology, and general pediatrics [1,6,7]. To the best of our knowledge, there has been no previous studies reporting on factors that may predict research publication in pediatric surgery. We conducted this study with the aim to describe the nature of studies presented at pediatric surgery meetings in North America and study the time to publication and factors that may predict the publication of research in peer-reviewed journals, particularly the effect of publication bias.

1. Methods

1.1. Study design

A retrospective cohort study of abstracts presented at the Canadian Association of Pediatric Surgeons (CAPS) and the American Pediatric Surgery Association (APSA) for 2 consecutive years (2001-2002) was undertaken. Those years were chosen to allow for maturation of our cohort because most research is published within 2 years [4]. The abstract book for each meeting was reviewed, and each abstract was evaluated for inclusion in the study. We excluded case reports and abstracts of guest lectures. A list of all the study abstracts was then formulated and entered in a database.

1.2. Study identification and abstract evaluation

Each abstract included in the study was read by 2 investigators familiar with research methodology (WA and MZ), and data regarding the demographics of each study were gathered: center of origin, meeting where it was presented, and basic science vs clinical research. Methodological variables for each study were also examined, including study design, sample size, direction, and statistical significance of results. No formal quality assessment of individual abstracts was undertaken.

1.3. Search criteria

To determine the publication status of each included abstract, a Medline and Pubmed search was conducted—search words using the name of the first and senior author to determine publication status, along with keywords from the abstract. *Publication status* was defined as studies published in peer-reviewed journals as full manuscripts. The peer review journal abstract was read and time to publication recorded. All the Medline searches were performed by one investigator (WA). For quality assurance of data collection, an independent search of a random sample of 10% of the abstracts was performed by another investigator (MZ).

1.4. Statistical methods

All gathered information was entered into a database. Descriptive statistics and frequencies were used. Comparisons between published and unpublished abstracts were then performed using univariate analyses. To predict factors associated with successful publication, multivariate logistic regression analysis was used. Furthermore, univariate and multivariate analysis where then used to determine differences pertaining to the time to publication. SPSS version 12 (SPSS, Chicago, Ill) was used for statistical analysis.

2. Results

2.1. Study characteristics

Two hundred seven abstracts were reviewed. Of those, 183 abstracts were eligible to be entered in the study. Abstracts were excluded if they were case reports or guest lectures. (Fig. 1). Studies of gastrointestinal diseases were, by far, the most common (51.4%), followed by cardiothoracic research (12%) (Table 1).

Basic science research constituted 25.1% of all studies. For clinical papers, 68 (37%) abstracts were retrospective

Table 1 Stratification of abstracts

	CVT	GI	HB/transplant	Trauma	GU	EBM/education	Others
n (%)	22 (12.0)	94 (51.4)	5 (2.7)	17 (9.3)	14 (7.7)	6 (3.3)	25 (13.7)

CVT, cardiovascular-thoracic; GI, gastrointestinal; HB, hepatobiliary; GU, gentiurinary; EBM, evidence-based medicine.