



## Conversion rate of research abstracts to publications in pediatric dentistry

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In order to study the time lag between presentation of an abstract and its publication as a manuscript, we surveyed abstracts presented orally or as posters by members of the American Academy of Pediatric Dentistry (AAPD) at two successive annual meetings of the American Association of Dental Research (AADR), the most prestigious national dental research meeting. We selected a 100% sample of all the presentations by members of the AAPD. The members of the AAPD were selected because of the variety of research interests in dentistry,<sup>1</sup> both clinical and basic science, permitting a wide variety of peer-reviewed journals for publication of full-length papers.

### Methods

The authors of all abstracts (both oral and poster presentations) for the 1989 and 1990 meetings of the AADR were checked, and members of AAPD identified using the rosters of members for the year of the meeting and for three years after the meeting, in order to capture the names of students who subsequently joined AAPD. A literature search was conducted using the MEDLINE database of the Medical Literature Analysis and Retrieval System (MEDLARS) of the National Library of Medicine to find articles published before December 1994 with authors identified as AAPD members.

The titles and data of the abstracts were compared with the summaries in MEDLARS to determine that the full-length article corresponded to the presented abstracts. If the titles and/or the data were identical or very similar to

that of the abstract, the abstract was identified as leading to a published article.

The data were analyzed by means of a Pearson correlation matrix comparing the correlation of the publication of papers derived from oral presentations and poster presentations.

### Results

By December 1994, an average of 48% of the 189 presentations authored by AAPD members and presented as posters or oral presentations at the 1989 and 1990 meetings of the AADR (1989, 51%; 1990, 45%) resulted in full-length publications. Most frequently, the presentations were in *Dental Materials*, *Cariology*, *Pharmacology and Therapeutics*, *Craniofacial Biology*, and *Behavioral Sciences* (Table). About 25% of the papers were published within one year of presentation of the abstract. Another 33% were published within two years follow-

TABLE. CONVERSION OF ABSTRACTS INTO PUBLICATIONS ACCORDING TO IADR/AADR GROUPS

	1989			1990			TOTALS		
	Abst	(%)	Papers	Abst	(%)	Papers	Abst	(%)	Papers
<i>Behavior</i>	11	(10.4%)	5	11	(13.2%)	3	22	(11.8%)	8
<i>Cariology</i>	19	(17.9)	7	9	(10.8)	5	28	(14.4)	12
<i>Craniofacial Biology</i>	16	(15.1)	8	4	(4.8)	1	20	(9.9)	9
<i>Dental Materials</i>	11	(10.4)	7	14	(16.9)	6	25	(13.7)	13
<i>Diagnostic Systems</i>	2	(1.9)	0	3	(3.6)	1	5	(2.7)	1
<i>Experimental Pathology</i>	5	(4.7)	3	1	(1.2)	1	6	(2.9)	4
<i>Geriatrics</i>	2	(1.9)	1	0			2	(0.9)	1
<i>Implants</i>	2	(1.9)	0	0			2	(0.9)	0
<i>Microbiology/ Immunology</i>	6	(5.7)	3	7	(8.4)	2	13	(7.1)	5
<i>Mineralized Tissues</i>	6	(5.7)	4	2	(2.4)	2	8	(4.1)	6
<i>Neuroscience</i>	0			1	(1.2)	0	1	(0.6)	0
<i>Periodontics</i>	8	(7.5)	3	11	(13.2)	4	19	(10.4)	7
<i>Pharmacology/ Therapeutics</i>	11	(10.4)	7	7	(8.4)	4	18	(9.4)	11
<i>Prosthodontics</i>	0			1	(1.2)	1	1	(0.6)	1
<i>Pulp</i>	5	(4.7)	3	9	(10.9)	4	14	(7.8)	7
<i>Salivary Glands</i>	1	(0.9)	0	2	(2.4)	2	3	(1.6)	2
<i>Surgery</i>	1	(0.9)	0	1	(1.2)	0	2	(1.1)	0
<b>TOTALS</b>	<b>106</b>	<b>(100%)</b>	<b>51</b>	<b>83</b>	<b>(99.8%)</b>	<b>36</b>	<b>189</b>	<b>(99.9%)</b>	<b>87</b>

ing the meeting at which they were presented. The journals in which the publications appeared included pediatric dentistry journals, other clinical journals, and non-clinical journals. No significant difference was noted in the rate of publication between oral and poster presentations. No statistical difference was seen in the rate of publication of abstracts as full-length articles by AAPD members among the different sections of the AADR. However, there was some variation among the sections.

## Discussion

Many factors may account for the delay between time of presentation of research at a meeting and publication of the full-length paper. According to Goldman and Loscalzo,<sup>2</sup> the time interval between publication of an abstract and publication of the full-length paper was from 1 to 35 months with a median time interval of 14 months in their 1970 sample of cardiology publications. Similar results were found by Meranze, et al.<sup>3</sup> in their survey of papers presented at anesthesiology societies. They found a difference between the conversion rate from abstract presentation to paper to be 30.1–43.6%, depending on the society selected. The lag time in their study was 8.2 to 12.5 months. In a later study of the conversion rate of anesthesiology abstracts presented at four different scientific meetings, Yentis and his group<sup>4</sup> determined that 44% of the abstracts were published as full-length papers within three years and 50% within five. For abstracts presented at several meetings in family practice organizations, there was a difference in the rate of conversion depending on the society selected for presentation of the abstract.<sup>5</sup> In dentistry, Corry<sup>6</sup> found only a small percentage (23%, N = 275) of abstracts (arbitrarily selected by her) converted to full-length papers in a literature survey done after the abstract presentations at two AADR meetings.

Previous studies indicated that a large percentage of basic and clinical medical research papers average about four years from initiation of the research to publication.<sup>7</sup> Therefore, five years was considered an adequate survey period.

While abstracts cannot be considered equivalent to peer-reviewed papers, a large proportion of the research presented at an AADR meeting results in papers published in peer-reviewed journals. In some instances, publication of just the abstract is attractive because of its timeliness.

In the present study, we grouped the results of two years' meetings, as the high correlation ( $r = 0.9$ ) and the result of the Student's *t*-test indicated that the populations were not different. Of the abstracts surveyed, 48% were published as full-length articles four to five years after the original presentation. These results differ from those presented by Corry.<sup>6</sup> This may be due to the se-

lection of the sample. Only a small percentage of the papers of the present survey were published in pediatric dentistry journals (13 in 1989 and eight in 1990). A large proportion was published in other clinical journals, (e.g., endodontics, periodontics, etc.; 23 in 1989 and 14 in 1990). Seventeen papers in 1989 and 14 in 1990 were published in nonclinical journals.

Not all abstract presentations result in final papers. The abstract may be complete, and therefore does not require further publication. Sometimes comments and questions raised during the presentation may be such that a new and more rewarding direction of work is subsequently undertaken. In some cases, while a manuscript is being prepared, another paper with similar results may appear, making further publication only "confirmatory."

It is also possible that during the lag time, the major investigator may have changed research direction or employment. The end of a fellowship or the beginning of private practice may also interfere with the time available for the completion of the manuscript.<sup>9</sup>

The wide range of research interest found in this sampling of the work of one group of dental specialists indicated the need for further examination of the scope of research and publication by dental specialists. The publications cover a wide range of journals, and review of a single specialty journal does not portray the scope of the research being done by individuals in that field.

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