



Dominant research interests of pediatric dentists: dental materials, craniofacial biology and cariology

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Pediatric dentistry has been defined as the specialty that encompasses all facets of dentistry limited to a specific age.¹ Olsen in 1959 stated that it is "quite difficult to determine objectively the limitations or scope of research activity that should be included in or excluded from a report to the members of the profession."¹

Reports on the many different aspects of research in pediatric dentistry have been presented by different investigators. Olsen¹ reported on selected research papers in pediatric dentistry presented by several investigators in the dental literature concerning aspects of dentistry such as oral habits and pulp therapy. Massler² called attention to research in dental caries, periodontal disease in children, oral habits, and hospital dentistry. Gunn³ noticed that in 1942 the *Year Book of Dentistry* devoted only seven pages to pediatric dentistry, compared with 40 pages in 1967. Pinkham⁴ reviewed research papers in the area of behavioral management.

A study was performed to evaluate dental research productivity in different institutions using the publication of the research papers in dental journals.⁵ However, more information is needed on current research trends in pediatric dentistry. A previous study demonstrates that pediatric dentists are sufficiently involved in dental research to justify analysis and classification.⁶

The purpose of this study was to analyze the recent research presentations by American Academy of Pediatric Dentistry (AAPD) members at two annual meetings of the International Association for Dental Research (IADR).

Methods and materials

The abstracts of papers given at two recent meetings of the IADR/AADR (Cincinnati in 1990 and Acapulco in 1991) were surveyed to select those presentations authored by current members of the AAPD. The IADR/AADR meetings have a great impact on research in dentistry, tend to bring together a large number of researchers, and are, in general, the most influential meetings in dental research. These two meetings were selected in order to compare a U.S. and a non-U.S. meeting.

Abstracts presented by members of the AAPD were identified using the AAPD membership lists for 1992 and 1993, including the abstracts for which at least one author was a current AAPD member. The membership lists used were deliberately chosen to include students who later joined the AAPD. All abstracts identified for each year were classified according to the number of authors listed for the papers, the number of pediatric dentists authoring the papers, whether they were presented orally or as posters, and according to subject matter based on the programming groups of the IADR.

Results

In 1990 (Cincinnati) 83 papers and in 1991 (Acapulco) 121 papers were authored by AAPD members and given as oral and poster presentations to sessions of 16 different groups of the IADR/AADR. At the Cincinnati meeting, the 83 papers had at least one author who was a member of the AAPD. These papers had 254 different authors. Forty-four presenting authors were members of the AAPD; 28 presentations were oral and 55 were posters.

At the Acapulco meeting, 121 papers had at least one author who was a member of the AAPD. These 121 papers had 275 different authors. Five papers were presented at symposia, 46 were oral presentations, and 70 were poster presentations. Seventy-one presenting authors were AAPD members. Thirty-three AAPD members presented papers at both meetings. The areas of research varied at the different meetings (Table). At the meeting in Cincinnati, the most frequent areas were dental materials (16%), periodontal research (13%), and behavioral sciences (13%). At the Acapulco meeting the most frequent research areas were craniofacial biology (23%), dental materials (18%), and cariology (12%). Pediatric dentists presented papers in 15 different groups of the IADR/AADR in 1990, while in 1991 pediatric dentists presented papers in 16 groups. (Table 1).

At both meetings, most papers had several authors, not all of whom were AAPD members. Of the papers presented in Cincinnati, 12 AAPD members authored two

TABLE. NUMBER OF PAPERS AUTHORED BY AAPD MEMBERS AND PRESENTED AT IADR/AADR MEETINGS

Group	Year of Presentation		Total (%)
	1990 (%)	1991 (%)	
Behavioral sciences	11 (13.3)	5 (4.1)	16 (7.8)
Cariology	9 (10.8)	15 (12.4)	24 (11.8)
Craniofacial biology	4 (4.8)	28 (23.1)	32 (15.9)
Dental materials	14 (16.9)	22 (18.2)	36 (17.6)
Diagnostic systems	3 (3.7)	2 (1.7)	5 (2.5)
Experimental pathology	1 (1.2)	2 (1.7)	3 (1.5)
Gerontology	0	4 (3.3)	4 (1.9)
Microbiology/immunology	7 (8.4)	9 (7.4)	16 (7.8)
Mineralized tissues	2 (2.4)	6 (4.9)	8 (3.9)
Neurosciences	1 (1.2)	4 (3.3)	5 (2.5)
Periodontal research	11 (13.3)	7 (5.8)	18 (8.8)
Pharmacology/therapeutics	7 (8.4)	7 (5.8)	14 (6.7)
Prosthodontics	1 (1.2)	1 (0.8)	2 (1.0)
Pulp	9 (10.8)	3 (2.5)	12 (5.9)
Salivary glands	2 (2.4)	3 (2.5)	5 (2.5)
Surgery	1 (1.2)	3 (2.5)	4 (1.9)
Total	83 (100)	121 (100)	204 (100)

papers, eight members authored three papers, one member authored four papers, and two members authored five papers. Of the papers presented in Acapulco, eight members authored two papers, six members authored three papers, one member authored five papers, and two members authored six papers.

Discussion

The purpose of this study was to evaluate the current research presentations by AAPD members at two recent meetings of the IADR/AADR.

The selection of abstracts at IADR/AADR meetings is based on review by informed researchers in the specific groups in which the paper is to be presented. Abstracts usually are reviewed by three reviewers using specific standard guidelines.⁷ Not all abstracts are accepted. There is about a 10% rejection rate, depending on the group in which the paper is to be presented.

Only AAPD members were considered in the present study. There were other pediatric dentists presenting papers at both the 1990 and the 1991 meeting, but since it is difficult to identify pediatric dentists who are not members of the AAPD, the membership directory was considered the basis for selection.

The percentage of abstracts that lead to full-length articles in peer-reviewed journals within 3 or 4 years varies greatly according to the meeting at which the abstract was presented.^{8,9} Not all abstracts presented at scientific meetings lead to full-length publications in peer-reviewed journals.

Some abstracts are only a portion of a work in progress, and may only be a part of a paper, making it difficult to retrieve the abstract with our method of data retrieval. A study by Corry⁹ shows that from a random

sample of IADR/AADR abstracts done in 1983 and 1984 only 25% appeared as full-length publications in peer-reviewed journals by 1988. Dawes¹⁰ suggests several reasons for this: one possibility is that the abstract gave sufficient information not to justify further publication or as Dawes said "the abstract said it all." Some of the abstracts presented in the dental materials group fall in this category since the dental materials group abstracts are accompanied by an extended microfilm report. Other possibilities are that the full-length publication was rejected by peer-reviewed publications or was not important enough to warrant a full-length publication. It is also possible that the research covered by the abstract may have disclosed further more fruitful research avenues, placing the present abstract in a list with less important priorities or simply by incorporating the material in another more relevant publication. Discussion following presentation of the abstract may have suggested new research design or methodology, and

the comments at time of presentation may have lead to a redirection of the research with a delay in the publication of the final paper.

It must also be noticed that the titles of full-length publications may differ from the titles of the abstract.¹¹ This also may be due to the long delay between the completion of the abstract, the actual presentation of the paper (about 6 months), and the completion of the manuscript for final publication.

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- Olsen NH: Recent and current research in pedodontics. *JADA* 58:33-36, 1959.
- Massler M: Changing concepts in pedodontics. *Alpha Omega* 58:129-34, 1965.
- Gunn LG: Children's dentistry — then and now. *J New Jersey Dent Soc* 39:185-88, 1968.
- Pinkham JR: Behavioral themes in dentistry for children: 1968-1990. *ASDC J Dent Child* 57:38-45, 1990.
- Martinoff JT, Lawson ES, Sungkhobol D: Clinical research in dental institutions as reported in selected dental journals. *J Am Dent Assoc* 101:919-22, 1990.
- Loevy HT, Goldberg, AF: Current research trends in pediatric dentistry. *Pediatr Dent* 16:153, 1994.
- McHugh WD: On reviewing and rejecting abstracts. (Editorial) *J Dent Res* 68: 78, 1989.
- Goldman L, Loscalzo A: Fate of cardiology research originally published in abstract form. *New Engl J Med* 303:255-59, 1980.
- Corry AM: A survey of the publication history of randomly selected IADR/AADR abstracts presented in 1983 and 1984. *J Dent Res* 68:1453-55, 1990.
- Dawes C: Should 75% of IADR abstracts be rejected? (Editorial) *J Dent Res* 68:1544, 1990.
- Weintraub WH: Are published manuscripts representative of the surgical meeting abstracts? An objective appraisal. *J Pediatr Surg* 22:11-13, 1987.