PEDIATRIC DENTISTRY/Copyright ©1984 by
The American Academy of Pedodontics/Vol. 6 No. 2

FORUM

Cleft palate training offered by advanced pedodontic programs

Dennis N. Ranalli, DDS, MDS Margaret A. Elliott, DDS, MPH
Robert Rapp, DDS, MS Betty Jane McWilliams, PhD
Thomas G. Zullo, PhD

Abstract

A survey was conducted of all accredited advanced pedodontic training programs in the United States to determine the extent and nature of didactic and clinical training in cleft palate treatment and cleft palate team participation in advanced pedodontic programs. A 96.8% response rate to the questionnaire was obtained. The results revealed that all advanced pedodontic training programs have some cleft palate training within their curricula. University programs reported a stronger didactic component than did hospital programs, but hospital programs reported more clinical experience in cleft palate treatment. Traditional pedodontic procedures were performed more frequently than were specialized techniques for cleft palate. Participation with a cleft palate team was reported by a majority of advanced pedodontic programs.

The team concept of health care delivery has been discussed repeatedly for many years. Certain health problems, by virtue of their complexity, cannot be managed efficiently by a single health care provider. In such instances, several professionals join in a cooperative effort to provide effective patient treatment. Cleft palate habilitation-rehabilitation is an area which utilizes a multidisciplinary team approach.

The pedodontist is an important contributor to the cleft palate team. As the multidisciplinary philosophy of a team approach continues to gain wider acceptance, it becomes increasingly important that the educational experience of the pedodontic postdoctoral student include didactic and clinical experience in cleft palate treatment as well as participation on cleft palate teams.[1] The importance of incorporating cleft palate training into advanced pedodontic programs has been emphasized by the goals and objectives espoused by various organizations.[2-4]

The purpose of this study was to conduct a survey of the university, hospital-based, and combined advanced pedodontic training programs in the United States to determine: (1) the extent of current cleft palate training in their curricula; (2) the nature of that training [i.e. didactic, clinical, and/or team participation]; (3) the amount of time devoted to cleft palate training; and (4) any differences, in cleft palate training among university, hospital, and combined pedodontic programs.

Methods and Materials

A questionnaire was sent to the 43 departmental chairmen of university-based and the 19 program directors of hospital-based advanced pedodontic training programs in the United States.[5]

Following a three-week waiting period, those who had not responded to the initial inquiry were sent a second questionnaire. Three weeks after the follow-up letter, those who still had not responded were contacted by telephone in order to determine the status of the questionnaire and to encourage a response. Information derived from the questionnaire did not identify participating institutions.

Replies to the 18-question survey were tabulated and the results analyzed.

Results

Sixty (96.8%) of the 62 questionnaires distributed were returned (all calculations were based on a sample size of 60). The primary location of the programs was indicated by the respondents as follows: 20 (33.3%)

identified themselves as university-based; 22 (36.7%) as hospital-based; and 18 (30.0%) as a combined university-hospital program.

Pedodontic Didactic Training in Cleft Palate

A specific didactic course or seminar program devoted exclusively to cleft palate was reported by 24 (40%) programs. Eleven of the 20 university programs (55.0%), 6 of the 18 combined programs (33.3%), and 7 of the 22 hospital programs (31.8%) reported this type of didactic commitment.

Twenty-eight of the remaining 36 respondents reported that the didactic aspects of cleft palate were included in other courses or seminars. Only eight programs reported no didactic course or seminar in cleft palate.

Respondents then were asked to indicate which cleft team members contributed to the didactic portion of their programs. The specialists listed included: pedodontists, orthodontists, speech pathologists, plastic surgeons, pediatricians, prosthodontists, otolaryngologists, audiologists, and psychologists. While pedodontists contributed to the didactic portion of pedodontic cleft palate training more frequently than any other specialty group, six programs had no pedodontic input. Orthodontists participated in the didactic portion of the training in 78.0% of the programs; speech pathologists, 71.7%; and plastic surgeons, 60.0%. Less than 50% of the programs included didactic instruction by pediatricians, prosthodontists, otolaryngologists, audiologists, or psychologists. For the nine specialties listed, the university-based programs reported the highest frequency of use for five groups, while the hospital-based programs reported the lowest frequency of use for six of these groups.

The number of hours devoted to didactic training in cleft palate ranged from 0 to 60. In general, the hospital programs were at the lower end of the spectrum while the university programs were at the higher end. For example, five hospital programs devoted 20-25 hours to didactic teaching of cleft palate; four combined programs reported 25-32 hours; and five university programs, 25-60 hours.

The didactic topics which were reported are summarized in Table 1. The most frequently reported topics were the pedodontist's role, pedodontic dental management, craniofacial growth and development, and multidisciplinary team philosophy. The least frequently reported topics were prosthodontics management, documentation of cleft cases, audiology/otolaryngology, and bone grafting.

Pedodontic Clinical Training in Cleft Palate

Clinical training in cleft palate was reported by 51 (85.0%) of the advanced pedodontic training programs. Twenty (90.9%) hospital programs, 16 (88.9%) combined, and 15 (75.0%) university programs had clinical training in cleft palate.

Observation of nondental clinical procedures performed by other specialists involved in team treatment indicated that the hospital programs were highest in observation of plastic surgery (63.3%); speech testing (63.6%); myringotomies (50.0%); genetic counseling (45.5%); and audiologic testing (36.4%). The combined programs were highest only for observa-

TABLE 1. Didactic Topics in Pedodontic Cleft Palate Training

Topic	*Total* N	*Total* Freq. (%)	*University* N	*University* Column (%)	*Hospital* N	*Hospital* Column (%)	*Combined* N	*Combined* Column (%)
Pedodontist role	57	95.0	19	95.0	20	90.9	18	100.0
Dental management-pedodontics	56	93.3	19	95.0	19	86.4	18	100.0
Craniofacial growth and development	56	93.3	19	95.0	19	86.4	18	100.0
Multidisciplinary team philosophy	54	90.0	19	95.0	18	81.8	17	94.4
Etiology, pathogenesis, embryology	53	88.3	19	95.0	18	81.8	16	88.9
Dental management-orthodontics	48	80.0	16	80.0	17	77.3	15	83.3
Syndromes associated with clefting	48	80.0	15	75.0	18	81.8	15	83.3
Infant and child development	47	78.3	18	90.0	15	68.2	14	77.8
Speech problems	46	76.7	16	80.0	16	72.2	14	77.8
Feeding problems (appliances)	44	73.3	15	75.0	15	68.2	14	77.8
Plastic surgical procedures	43	71.7	13	65.0	16	72.7	14	77.8
Presurgical orthopedics	40	66.7	12	60.0	14	63.6	14	77.8
Psychological considerations	38	63.3	14	70.0	12	54.5	12	66.7
Dental management-prosthodontics	36	60.0	13	65.0	13	59.1	10	55.6
Documentation of cleft cases	35	58.3	15	75.0	10	45.5	10	55.6
Audiology/otolaryngology	34	56.7	12	60.0	12	54.5	10	55.6
Bone grafting	26	43.3	11	55.0	8	36.4	7	38.9
Other*	1	1.7	0	0.0	1	4.5	0	0.0

* Social Services

TABLE 2. Cleft Palate Treatment Performed in Pedodontic Training Programs

Treatment	*Total* N	*Total* Freq. (%)	*University* N	*University* Column (%)	*Hospital* N	*Hospital* Column (%)	*Combined* N	*Combined* Column (%)
Restorative dentistry	57	95.0	19	95.0	22	100.0	16	88.9
Space maintenance	57	95.0	19	95.0	22	100.0	16	88.9
Interceptive orthodontics	51	85.0	17	85.0	19	86.4	15	83.3
Prevention	49	81.7	15	75.0	19	86.4	15	83.3
Infant impressions	36	60.0	8	40.0	13	59.1	15	83.3
Feeding appliances	33	55.5	8	40.0	12	54.5	13	72.2
Presurgical orthopedic appliances	30	50.0	8	40.0	11	50.0	11	61.1
Transitional prosthetic speech aid appliances	26	43.3	11	55.0	6	27.3	9	50.0
Other*	3	5.0	1	5.0	2	9.1	0	0.0

* Other treatment procedures were: oral surgery (2), cojoint surgical procedures with plastic surgeon (1).

tion of pediatric examinations of children with clefts (83.3%). The university programs in every instance were lowest for observation of nondental clinical procedures.

Cleft palate clinical treatment procedures performed by pedodontic graduate students and specialty residents are summarized in Table 2. Restorative dental procedures as well as space maintenance were reported by 95.0% of the programs. Both of these were highest in the hospital programs, followed by the university programs, then the combined programs. Interceptive orthodontic procedures were next highest and were found with about equal frequency in the three program types. Principles of prevention were reported by 81.7% of the programs, but were lowest in the university programs. More specialized techniques in cleft palate treatment were reported with less frequency in all of the programs. For example, infant impressions were reported by 60.0% of the programs, followed by feeding appliances, presurgical orthopedic appliances, and transitional prosthetic speech appliances. For four of the procedures the hospital programs reported the highest frequencies. However, these were all traditional types of pedodontic services and included restorative dentistry, space maintenance, interceptive orthodontics, and prevention. The combined programs were highest in three categories, but also included the more specialized cleft palate techniques such as infant impressions, feeding appliances, and presurgical orthopedic appliances. The university programs were highest only for transitional prosthetic speech appliances.

The number of hours devoted to clinical training in cleft palate ranged from 0 to 600 hours. Only one combined program indicated no clinical training and one reported 600 hours of clinical training. Eighteen programs devoted 10-20 hours to clinical training. This range occurred more frequently than any other and was reported by nine hospital programs, five university programs, and four combined programs. Thirteen programs (21.7%) reported either a variable number of clinical hours or the hours were unknown.

The number of cleft palate patients treated by each resident during the course of training ranged from 0 to 85. The one program reporting no cleft palate patients was a combined program, while the one reporting 85 patients was a university-based program. Forty-seven programs reported between 1 and 15 patients, four between 40 and 60 patients, and seven either a variable or an unknown number.

Pedodontic Participation in Cleft Palate Teams

Fifty-one (85.0%) pedodontic programs indicated an affiliation with a cleft palate team. The percentage of time that pedodontic graduate students or residents participated with the cleft palate team in treatment planning sessions is summarized in Table 3. Thirteen programs reported that they met with their team affiliate 1-24% of the sessions, while 11 programs reported that they met for all sessions. The amount of actual exposure would depend on the frequency of the team sessions.

Discussion

This study indicates that all advanced pedodontic programs in the United States have some cleft palate training in their curricula. While eight programs reported no didactic component, all reported clinical experiences in cleft palate. Conversely, the nine programs reporting no clinical experience indicated a didactic component.

The nature of training offered in cleft palate is more didactic in university programs as indicated by a

greater diversity of topics, greater didactic input from various other specialty groups, more didactic hours, and more exclusive courses specific to cleft palate than in combined or hospital-based programs. This finding appears to be consistent with the differences in emphasis of the various pedodontic training programs. The university programs usually emphasize teaching while hospital programs tend to be more service oriented.

Hospital programs have a stronger clinical component than combined or university-based programs. Clinical procedures of other specialists involved in team management are observed most frequently in hospital programs and least frequently in university-based programs. This trend may be attributed to the availability of such specialists within the hospital environment.

Additionally, on a percentage basis, the hospital programs provide a wider variety of clinical services than do combined or university-based programs. Those procedures associated with traditional pedodontic practice such as restorative dentistry and space maintenance are performed most frequently, while those of a more specialized nature such as transitional prosthetic speech aids and presurgical orthopedic appliances are performed least often. It is noteworthy that only 81.7% of the programs include principles of prevention in their pedodontic cleft palate clinical experience despite the fact that this service should be extended to all patients regardless of status.

There are few differences in the number of hours devoted to clinical treatment of patients with clefts, or the number of cleft patients treated by each resident in university, hospital, or combined programs.

Fifty-one (85.0%) advanced pedodontic training programs are affiliated with cleft palate teams. Fifty of these programs participate on a regular basis in cleft palate team sessions. Since there are 241 cleft palate teams in the United States,[6] there are ample teams available to provide multidisciplinary opportunities to pedodontic training programs.

Conclusion

While this survey indicates that all advanced pedodontic training programs have some didactic, clinical, and team participation, no qualitative judgment of this educational experience can be made based on the results. However, the quantitative data determines the status of cleft palate training in advanced pedodontic programs in the United States and will be useful both in evaluating current programs and in planning future programs.

The authors acknowledge Drs. W.A. George and Carol Baker, and Mrs. Carol Mrazik for their assistance in the preparation of this manuscript.

Dr. Ranalli is an associate professor and assistant chairman of the graduate division; Dr. Elliott is an assistant professor; and Dr. Rapp is a professor and chairman, Department of Pedodontics, University of Pittsburgh School of Dental Medicine, 333 Salk Hall, Pittsburgh, PA 15261. Dr. McWilliams is a professor and director of the Cleft Palate Center, University of Pittsburgh. Dr. Zullo is a professor and associate director, Learning Resources, University of Pittsburgh School of Dental Medicine. Reprint requests should be sent to Dr. Ranalli.

1. Ranalli, D.N. Design of a postdoctoral training program in the treatment of children with congenital orofacial clefts. Spec Care Dent 1:218–20, 1981.
2. Morris, H.L., Jokobi, P., Harrington, D. Objectives and criteria for the management of cleft lip and palate and the delivery of management services. Cleft Palate J 15:1–5, 1978.
3. American Association of Dental Schools Curriculum Guidelines for Dentistry for the Handicapped. J Dent Ed 43:37–41, 1979.
4. American Association of Dental Schools—Pedodontic Section and American Academy of Pedodontics. Compendium of instructional objectives, 1976. pp 1–61.
5. American Academy of Pedodontics. Dental schools with advanced pedodontic programs. Pediatr Dent 2:330–35, 1980.
6. American Cleft Palate Association Membership—Team Directory, 1980.

TABLE 3. Pedodontic Programs Reporting Participation in Cleft Palate Teams

Sessions Attended by Pedodontic Residents	*Total*		*University*		*Hospital*		*Combined*	
	N	Freq. (%)	N	Column (%)	N	Column (%)	N	Column (%)
100%	11	18.3	1	5.0	7	31.8	3	16.7
75% - 99%	9	15.0	3	15.0	2	9.1	4	22.2
50% - 74%	7	11.7	4	20.0	2	9.1	1	5.6
25% - 49%	8	13.3	4	20.0	3	13.6	1	5.6
1% - 24%	13	21.7	3	15.0	3	13.6	7	38.9
0	1	1.7	0	0.0	1	5.5	0	0.0
Variable unknown	2	3.3	2	0.0	0	0.0	0	0.0
No team affiliation	9	15.0	3	15.0	4	18.1	2	11.1