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The status of geriatric education in dental hygiene curricula

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ABSTRACT

To assess the status of geriatric education in dental hygiene curricula, a pretested survey was sent to a 55% random sample of the 198 US dental hygiene programs. Of the 109 surveys mailed, a 90% response rate showed that geriatric didactic material is most frequently presented via occasional lectures, rather than in a formal course or an organized series of presentations. Seventy-five percent of the programs have a geriatric clinical component. Baccalaureate programs and programs longer than 2 years are more likely than associate programs and programs shorter than 2 years, respectively, to teach geriatrics in a more formalized setting. There is no significant difference in the way geriatric material is presented between hygiene programs that are and are not within dental schools.

THE OLDER POPULATION (those 65 years or older) is growing at a faster rate than the population as a whole.¹ In 1970, older individuals comprised 9.8% of the US population. This figure increased to 11% in 1980, and by the year 2000 an estimated 20% of the population will be classified as geriatric.² The basis for this phenomenon is increased life expectancy and reduced birth rates within the past several years. This population group represents more than 25 million people, or an average of 200 persons per dentist.³

Dental schools are responsible for preparing students to improve the dental health of the population,⁴ and dental hygiene programs to prepare their graduates with skills and knowledge to provide educational and preventive dental hygiene services. Therefore, individuals who plan curricula should be responsive to the needs of the public, including the older population.

Previous studies⁵⁻⁷ have documented the development of geriatric education in dental schools. By 1984, 100% were teaching geriatric dentistry in some form, and the primary method of teaching was via formalized didactic courses.⁷

To date, no studies have been done on the status of geriatric education in dental hygiene curricula, although dental hygienists have a role in the delivery of dental services to this pop-

ulation.⁸ A survey by Cohen and others⁹ disclosed that nearly 50% of hygienists working with seven special patient populations (including older adults) viewed their training as inadequate. Kamen¹⁰ states that dental hygienists are essential—sometimes more essential than dentists—to cope with the dental needs of the older population. Some of the traditional functions performed in nontraditional settings by hygienists include examinations, case conferences, radiographs, temporary restorations, bedside oral hygiene instructions, prophylaxes, periodontal scaling, and inservice training.

Kamen¹⁰ has said that the current workforce is grossly inadequate for primary dental care of the older population. He estimates that by the end of the century we will require approximately 4,000 dental practitioners with gerodontic skills to supply necessary oral health services for this population.

All this points to a need for better integration of geriatrics into dental hygiene curricula.

In light of the lack of any survey on the development of geriatrics in dental hygiene programs, this study evaluated the content, method, and site of teaching of geriatric dentistry in schools of dental hygiene. Four hypotheses were tested:

—Because of the availability of more curriculum time, programs greater than 2 years in length will be more likely to teach geriatrics in a formalized setting than programs less than 2 years in length.

—Because baccalaureate programs are generally longer than associate programs, baccalaureate programs will be more likely to teach geriatrics in a formalized setting.

—Because of the possibility of the greater availability of teaching resources, hygiene programs within schools of dentistry will be more likely to teach geriatrics in a formalized setting than hygiene programs that are not within dental schools.

—Schools with a more formal didactic program in geriatrics will be more likely to offer a geriatric clinical component because a more formal method of presentation could reflect a greater sensitivity toward covering geriatrics in all contexts.

MATERIALS AND METHODS

A questionnaire, modified from Ettinger (personal communication, 1986), was pretested for clarity at the Forsyth School for Dental Hygienists. After pretesting, a cover letter and the questionnaire were mailed to a 55% random sample (using a table of random numbers) of the 198 dental hygiene programs

listed in the American Dental Association's Annual Report of Dental Auxiliary Education.¹¹ A total of 109 questionnaires were mailed. Four weeks after this mailing, phone calls were made and second mailings were sent to nonresponders, encouraging them to return the questionnaire.

The following definition of geriatric dental hygiene was used: preventive dental hygiene services and health education for the older adult, those people older than 65 years of age. During analysis, location of a dental hygiene program within a dental school was determined from the American Association of Dental Schools' Directory of Institutional Members.¹²

RESULTS

Nine weeks after the first mailing, 98 questionnaires were returned, for an overall response rate of 90%.

Although 98% of the hygiene programs reported teaching geriatrics in some form, and 98% of these made the didactic material compulsory, an occasional lecture was the primary method of relating this material. 4% taught a specific course in geriatrics with an average of 5 hours of classroom time.

The five most frequently taught topics (from the subject matter listed in the questionnaire) were: oral manifestations of systemic disease; medical problems of older adults; management of homebound, institutionalized and hospitalized older adults; management of the healthy older adult; and socioeconomic problems. The five least popular topics were: aging and theories of aging; demographic distribution of the older adult; stomatognathic changes associated with aging; home care and the use of portable equipment; and visual and auditory loss in the older adult (Table 1).

Seventy-five percent of programs have a geriatric clinical component, and 79% of these make the clinical experience compulsory. Students participating in the geriatric clinical component have an average of 21 hours of patient contact.

Eighty-six percent of programs use extramural sites for geriatric clinical contact; nursing homes and Veterans Administration hospitals comprise the majority of those extramural sites.

Almost a third of the dental hygiene programs plan on expanding the geriatric curriculum, with such plans including: formalizing the didactic component (37.5%), increasing the number of clinical hours (34.4%) and/or extramural sites (18.8%), and offering continuing education courses (15.6%).

Tables 2 to 7 show testing of the four hypotheses. Although data are presented for four categories of "Method of Presentation of Geriatric Didactic Material," the category labeled "other" was dropped during χ^2 analyses.

Table 2 shows that dental hygiene programs longer than 2 years in length are more likely to present geriatric didactic material in a formal course or a series of presentations, whereas programs less than or equal to 2 years in length are more likely to use an occasional lecture ($P = .001$).

Table 3 indicates that baccalaureate programs are more likely to use a formal course or a series of presentations, whereas associate programs are more likely to use an occasional lecture ($P \leq .0001$).

Table 4 suggests that dental hygiene programs located within dental schools are more likely to use a formal course, whereas programs outside of dental schools are more likely to use a series of presentations ($P = .035$). However, Tables 5 and 6 show that after controlling for program length, there is no significant difference between programs within and outside dental schools. Longer programs are more likely to be located within

Table 1. Subject matter covered by dental hygiene programs.

Topic	No. of schools	Percent of schools*
Oral manifestations of systemic disease	88	92.6
Medical problems of older adults	79	83.2
Management of homebound, institutionalized, and hospitalized older adults	79	83.2
Socioeconomic problems	75	78.9
Management of the healthy older adults	75	78.9
Management of the frail older adults	74	77.9
Psychosocial problems	73	76.8
Barriers to dental care	64	67.4
Visual and auditory loss in older adults	61	64.2
Home care and the use of portable equipment	53	55.8
Stomatognathic changes associated with aging	50	52.6
Demographic distribution of older adults	48	50.5
Aging and theories of aging	38	40.0
Other	7	7.4

*Out of 95 respondents.

Table 2. Method of presentation of didactic material by program length.*

	Method of presentation				Total
	Formal course	Series of presentations	Occasional lecture	Other	
≤ 2 yrs	0% (0)	34% (23)	60% (41)	6% (4)	68
> 2 yrs	15% (4)	44% (12)	33% (9)	7% (2)	27
Total	4	35	50	6	95

Chi-square = 13.43, $P = .001$.
*Statistical analysis performed eliminating "other" category.

Table 3. Method of presentation of didactic material by program type.*

	Method of presentation				Total
	Formal course	Series of presentations	Occasional lecture	Other	
Associate	0% (0)	36% (27)	59% (44)	5% (4)	75
Baccalaureate	20% (4)	40% (8)	30% (6)	10% (2)	20
Total	4	35	50	6	95

Chi-square = 18.02, $P \leq .0001$.
*Statistical analysis performed eliminating "Other" category.

dental schools, confounding the results in Table 4.

Table 7 shows no association between the method of presentation of geriatric didactic material and the use of a geriatric clinical component ($P = .945$).

DISCUSSION

In this study of dental hygiene programs, it was promising to see that 98% reported teaching geriatrics, but it was somewhat discouraging to see that only 4% use a formal course; the most common method is via an occasional lecture. However, it was encouraging to see that almost 33% of hygiene programs plan on expanding the geriatric curriculum, and, of these, 37.5% plan on formalizing the didactic component. With this in mind,

Table 4. Method of presentation of didactic material by location within or outside a dental school.*

Within a dental school?	Method of presentation				Total
	Formal course	Series of presentations	Occasional lecture	Other	
Yes	13% (3)	26% (6)	52% (12)	9% (2)	23
No	1% (1)	40% (29)	53% (38)	6% (4)	72
Total	4	35	50	6	95

Chi-square = 6.68, $P = .035$
*Statistical analysis performed eliminating "Other" category.

Table 5. Method of presentation by location, controlling for length (≤ 2 years).

Within a Dental School?	Method of presentation				Total
	Formal course	Series of presentations	Occasional lecture	Other*	
Yes	0% (0)	22.22% (2)	66.67% (6)	11.11% (1)	100% (9)
No	0% (0)	35.59% (21)	59.32% (35)	5.08% (3)	100% (59)
Total	(0)	(23)	(41)	(4)	(68)

Chi-square = .082, $P = .761$.
*Statistical analysis performed omitting "Other" category.

Table 6. Method of presentation by location, controlling for length (> 2 yrs).

Within a Dental School	Method of presentation				Total
	Formal course	Series of presentations	Occasional lecture	Other*	
Yes	21.43% (3)	28.57% (4)	42.86% (6)	7.14% (1)	100% (14)
No	7.69% (1)	61.54% (8)	23.08% (3)	7.69% (1)	100% (13)
Total	(4)	(12)	(9)	(2)	(27)

Chi-square = 3.30, $P = .190$.
*Statistical analysis performed omitting "Other" category.

Table 7. Presence of geriatric clinical component by method of presentation of didactic material.*

	Clinical component?		Total
	Yes	No	
Formal course	75% (3)	25% (1)	4
Series of presentations	77% (27)	23% (8)	35
Occasional lecture	74% (37)	26% (13)	50
Other	67% (4)	33% (2)	6
Total	71	24	95

Chi-square = 0.109, $P = .945$
*Statistical analysis performed eliminating "Other" category.

it would be expected that a future survey would show an increase in the number of classroom hours devoted to geriatric education as well as an increase in geriatric clinical hours.

When increasing classroom time, schools should be urged to incorporate more pertinent geriatric topics, such as home care and the use of portable equipment, and visual and auditory loss in older adults, currently some of the least frequently taught topics. Most of the programs do teach management of homebound, institutionalized, and hospitalized older adults. Students should put this classroom knowledge to use during extramural geriatric rotations.

Tables 2 and 3 were consistent with the original hypotheses and showed that the factors affecting the level of formality of

the didactic presentation were program length (> 2 years) and program type (baccalaureate). The influences of program length and program type are explained by the availability of more curriculum time in longer programs and in baccalaureate programs. It was discouraging to see that after controlling for program length (Tables 5,6), hygiene programs within dental schools were no more likely to use a formal method of presentation of didactic material than programs outside dental schools. As Moshman and others⁷ reported that 100% of dental schools teach geriatrics, with 58% using a district geriatric course, one would have hoped that hygiene programs within dental schools would be able to take advantage of these teaching resources.

Table 7 showed no association between method of presentation and the use of a geriatric clinical component, suggesting that it is easier to incorporate geriatric education into the clinical setting than into the classroom and/or that dental hygiene educators believe it is more important to incorporate geriatrics into the clinical setting than into the classroom.

Care should be taken before generalizing the results of this study to all hygiene programs. Although 55% of all US programs were sampled, responses from the 45% not included might have made the results quite different. However, the 90% response rate in this study supports the contention that results are fairly indicative of the 55% sampled.

Future studies on the adequacy of geriatric training of dental hygienists should focus on surveying hygienists, both graduates and students. However, Moshman and others advise that such studies, in turn, must await explicit statements of the objectives of geriatric education and training. Although such objectives have been formulated for geriatric dental education,¹³ similar objectives for geriatric dental hygiene education have yet to be developed.

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