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# Eating Disorders in the Oral Health Curriculum

# Rita D. DeBate, Ph.D., M.P.H., C.H.E.S.; Deanne Shuman, Ph.D., M.S., R.D.H.; Lisa A. Tedesco, Ph.D.

*Abstract:* Due to the oral/systemic nature of eating disorders, this serious health issue requires comprehensive patient assessment and coordinated health treatment. The purpose of this study was to assess the breadth and depth of eating disorder and comprehensive care within the dental and dental hygiene curriculum. Survey data were collected from deans of U.S. dental programs (n=24) and dental hygiene program directors (n=94). Statistically significant differences were observed between dental programs (DP) and dental hygiene programs (DHP) as more DHP reported including anorexia nervosa (p<.001), bulimia nervosa (p<.001), and oral manifestations of eating disorders (p=.003) within their curricula. Clock hours dedicated to these topics ranged from seventeen to thirty-five minutes, with no statistically significant differences observed between DP and DHP. Only 58 percent of DP and 56 percent of DHP included patient communication skills specific to eating disorders. Moreover, DHP were observed dedicating more instruction time for this skill (p=.011). As greater emphasis is placed on oral/systemic health and the provision of comprehensive care, many oral health professionals may not be adequately trained to identify, provide education, and communicate with patients regarding the oral/systemic nature of eating disorders. The findings from this study indicate that there is a need for appropriate training to better prepare oral health professionals for comprehensive patient care.

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Key words: eating disorders, anorexia nervosa, bulimia nervosa, dental curriculum, dental hygiene curriculum, comprehensive care

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any dentists and other health care providers now recognize that oral health has shifted to include the recognition that the condition of oral structures is an early warning system of potential physical and mental health issues.<sup>1-3</sup> Supporting this paradigm are the following strategic principles included in the Institute of Medicine (IOM) report Dental Education at the Crossroads: a) oral health is an integral part of total health, and oral health care is an integral part of comprehensive health care including primary care (patient examination and assessment, diagnosis, direct treatment, treatment planning, the use of allied dental personnel, and referral to dental specialists, physicians, or others as appropriate); and b) the long-standing commitment of dentists and dental hygienists to prevention and primary care should remain vigorous.<sup>4</sup> Promoting and maintaining oral health and well-being are also addressed by the first U.S. surgeon general's report on oral health, which describes the oral health care providers' expanded role as including detection, early recognition, and management of a wide range of oral and general diseases and conditions. Thus, preparing

providers for this new role involves changes in oral health curriculum and multidisciplinary training.<sup>3</sup>

In 2003, the ADEA President's Commission report "Improving the Oral Status of All Americans: Roles and Responsibilities of Academic Institutions" made recommendations for dental schools that included educating dental students to assume new roles in prevention, detection, and early recognition of oral and systemic medical diseases in collaboration with other health professionals.<sup>5</sup> However, in spite of these recent recommendations, comprehensive care (patient examination and assessment, providing patient-specific home dental care and direct treatment, referral to specialists, physicians, or others as appropriate) and collaboration with other health professionals have continued to be described as an "ideal" due to limited training provided in these areas within current dental curricula.4,6

Eating disorders such as anorexia nervosa (AN), bulimia nervosa (BN), and eating disorders not otherwise specified (EDNOS) are a prime example of the oral/systemic health link. In the United States, approximately 1 percent of late adolescent

and adult women meet the diagnostic criteria for anorexia nervosa, and approximately 2 percent meet the diagnostic criteria for bulimia nervosa.<sup>7</sup> Oral manifestations resulting from eating disorders are well reported in the dental literature.<sup>8-13</sup> Although regarded primarily as a mental health issue, eating disorders can result in many serious systemic health conditions.<sup>14,15</sup> Moreover, the mortality rate associated with anorexia nervosa for females fifteen to twenty-four is twelve times higher than the rate of all other causes of death.<sup>16</sup> Failure to make an early diagnosis of these oral health manifestations may not only increase the likelihood of irreversible damage to the oral cavity,<sup>17</sup> but also may lead to the development of additional serious systemic health problems.

Despite this oral/systemic link and the shift toward comprehensive care, current research indicates that many dentists and dental hygienists are not engaging in the provision of comprehensive care including identifying eating disorder-specific oral manifestations, providing eating disorder-specific patient education, and referring patients for treatment.<sup>18,19</sup> Recent research by DeBate and Tedesco<sup>20</sup> identified lack of educational training pertaining to oral and physical manifestations of eating disorders, skill in patient approach, and knowledge of referral agencies as barriers to eating disorder-specific comprehensive care among practicing dentists.

With regard to the inclusion of comprehensive care of eating disorders within the dental and dental hygiene curriculum, Gross et al. implemented an assessment of these respective curricula to assess the inclusion of BN and AN.<sup>21</sup> Their study found that although both educational programs indicated the inclusion of these health issues within their respective curricula, more dental hygiene programs (85 percent) reported inclusion than dental schools (59 percent). Additionally, dental hygiene programs noted spending approximately fifty-two minutes on general characteristics of AN and BN, while dental programs reported an average of twenty-four minutes on this topic. Regarding oral complications of eating disorders, findings were similar in that both dental and dental hygiene programs reported spending very little instruction time on this topic (eleven minutes and fifteen minutes, respectively). As far as comprehensive patient care, Gross et al. observed 81 percent of dental hygiene programs and only 50 percent of dental programs included treatment modalities in the curriculum.<sup>21</sup> Additionally, their study found that only 32 percent of dental and dental hygiene programs referred patients suspected to have eating disorders, and only 17 percent had established institutional liaisons with eating disorder clinics.<sup>21</sup>

More recently, Silverton found 52 percent of U.S. dental schools covered eating behaviors/disorders as part of a required course and only 8 percent of dental schools included this topic as a separate required course within their curricula. Furthermore, only 44 percent of dental schools covered the impact of eating behaviors/disorders on oral health and oral health care utilization, and only 16 percent reported offering this topic as a separate required course.<sup>2</sup>

As a result of the paradigm shift to comprehensive care of oral/systemic health issues in addition to the newly developed strategies and recommendations supporting this focus, the purpose of the current study was to assess the breadth and depth of eating disorderspecific comprehensive and primary care instruction within the dental and dental hygiene curricula.

### **Methods**

A web-based questionnaire was used to survey participants via a secured website. The twenty-three item questionnaire assessed the following content areas: a) didactic and clinical curricula regarding eating disorders and associated comprehensive and primary care; b) program policies and procedures regarding comprehensive and primary care of eating disorders; c) beliefs regarding eating disorder-specific comprehensive care; and d) demographics. Questions referring to beliefs regarding eating disorder-specific comprehensive care behaviors were adaptations of the questions formerly implemented by Gross et al.<sup>21</sup> The Old Dominion University Human Subjects Institutional Review Board deemed this study exempt.

In the fall of 2005, deans of U.S. dental programs (n=56) and directors of dental hygiene programs (n=260) accredited by the American Dental Association's Commission on Dental Accreditation were emailed an initial letter explaining the research study and inviting participation. The informational letter included a web link to the study questionnaire. To increase participation rates, a follow-up email including the web link was sent three weeks after the initial invitational letter to all who had not completed the questionnaire. Of the 316 invited participants, 146 completed the survey (twenty-four dental programs and ninety dental hygiene programs) resulting in a 46 percent response rate.

All data were entered and analyzed utilizing SPSS v.11. Results are expressed as mean values,

standard deviations, frequencies, and percentages. Comparisons between the two groups were carried out by t-tests and chi square tests for significance. Differences were considered significant for p-values less than .05.

### Results

#### **Characteristics of Eating Disorders**

Table 1 depicts inclusion of general characteristics of eating disorders within dental and dental hygiene program curricula. Overall, results revealed that the majority of both dental and dental hygiene program curricula included general characteristics of anorexia nervosa (71 percent and 96 percent, respectively) and bulimia nervosa (71 percent and 96 percent, respectively). However, fewer dental and dental hygiene programs specified the inclusion of eating disorders not otherwise specified (EDNOS) within their curricula (46 percent and 58 percent, respectively). Statistically significant differences were observed between dental and dental hygiene programs, with more dental hygiene programs indicating the inclusion of general characteristics of anorexia nervosa (p=<.001) and bulimia nervosa (p=<.001) within their respective curricula. No statistically significant differences were observed between programs with regard to the inclusion of curricular contents for EDNOS (p=.296).

Among dental and dental hygiene programs that indicated the inclusion of general characteristics

of anorexia nervosa, bulimia nervosa, and EDNOS within their curricula, results reveal no statistically significant differences regarding instruction time dedicated to these health issues. Generally speaking, both dental and dental hygiene programs report spending approximately thirty-two minutes on general characteristics of anorexia nervosa and bulimia nervosa. For those programs reporting the inclusion of general characteristics of EDNOS, the mean time spent on this topic was less than twenty-five minutes for both programs.

#### **Eating Disorder-Specific Secondary Prevention Behaviors**

Overall, as depicted in Table 2, the majority of both dental and dental hygiene programs included oral manifestations of eating disorders, patient education regarding disordered eating, and patient education regarding patient-specific home dental care. However, fewer programs included patient approach and communication skill (58 percent dental and 56 percent dental hygiene) in their curricula. Additionally, results indicate that more dental hygiene programs (97 percent) than dental programs (79 percent) reported including oral manifestations of eating disorders in their curricula (p=.003).

More specifically, among those programs indicating the inclusion of these topics in their curricula, results indicate that the majority of programs include didactic instruction of oral manifestations, patient education of eating disorders, and patient education of patient-specific home dental care instructions.

Program provides curriculum regarding general characteristics of:	Dental Programs f (%)	Dental Hygiene Programs f (%)	p-value
Anorexia Nervosa			
• No	7 (29.2)	4 (04.4)	<.001*
• Yes	17 (70.8)	86 (95.6)	
• Number of minutes (m±sd)	32.35±27.85	32.67±19.94	.107
Bulimia Nervosa			
• No	7 (29.2)	4 (04.4)	<.001*
• Yes	17 (70.8)	86 (95.6)	
• Number of minutes (m±sd)	33.24±27.15	31.80±20.26	.185
Eating Disorders Not Otherwise Specified (EDNOS)			
• No	13 (54.2)	38 (42.2)	.296
• Yes	11 (45.8)	52 (57.8)	
• Number of minutes (m±sd)	17.27±11.48	22.31±21.22	.236
*Tests are significant at p<.05.			

#### Table 1. Inclusion of general characteristics of eating disorders (n=24 dental programs, n=90 dental hygiene programs)

## Table 2. Eating disorder-specific secondary prevention curricula (n=24 dental programs, n=90 dental hygiene programs)

Program provides instruction regarding:	Dental Programs f (%)	Dental Hygiene Programs f (%)	p-value	
Oral manifestations of disordered eating behaviors				
• No	5 (20.8)	3 (3.3)	.003*	
• Yes	19 (79.2)	87 (96.7)		
<ul> <li>Number with didactic instruction</li> </ul>	19 (100)	87 (100)		
<ul> <li>Minutes of didactic instruction (m±sd)</li> </ul>	25.53±18.70	26.20±20.23	.890	
<ul> <li>Number with clinical instruction</li> </ul>	4 (21)	27 (31)		
<ul> <li>Minutes of clinical instruction (m±sd)</li> </ul>	28.75±14.36	29.48±26.02	.957	
Patient education regarding disordered eating behaviors				
• No	6 (25.0)	11 (12.2)	.118	
• Yes	18 (75.0)	79 (87.8)		
<ul> <li>Number with didactic instruction</li> </ul>	16 (89)	76 (96)		
<ul> <li>Minutes of didactic instruction (m±sd)</li> </ul>	18.13±16.15	21.97±19.01	.435	
<ul> <li>Number of programs with clinical instruction</li> </ul>	3 (17)	25 (32)		
<ul> <li>Minutes of clinical instruction (m±sd)</li> </ul>	33.32±20.21	30.72±33.11	.896	
Patient education regarding patient-specific home dental care for those with disordered eating behaviors				
• No	7 (29.2)	18 (20.0)	.335	
• Yes	17 (70.8)	72 (80.0)		
<ul> <li>Number with didactic instruction</li> </ul>	16 (94)	71 (99)		
<ul> <li>Minutes of didactic instruction (m±sd)</li> </ul>	22.50±29.16	20.27±22.62	.737	
<ul> <li>Number with clinical instruction</li> </ul>	3 (17)	22 (31)		
<ul> <li>Minutes of clinical instruction (m±sd)</li> </ul>	33.33±25.19	25.91±28.19	.670	
Skill regarding patient approach				
• No	10 (41.7)	40 (44.4)	.807	
• Yes	14 (58.3)	50 (55.5)		
<ul> <li>Number of programs with didactic instruction</li> </ul>	12 (86)	50 (100)		
<ul> <li>Minutes of didactic instruction (m±sd)</li> </ul>	10.42±3.34	17.76±19.48	.015*	
<ul> <li>Number of programs with clinical instruction</li> </ul>	1 (7)	16 (32)		
<ul> <li>Minutes of clinical instruction (m±sd)</li> </ul>	10.00	18.13±15.57	+	
*Tests are significant at p<.05.				

+Unable to calculate as only one dental school reported clinical instruction.

Didactic instruction time on these topics range from eighteen minutes to thirty-three minutes, with no statistically significant differences between dental and dental hygiene programs (see Table 2). However, fewer dental and dental hygiene programs reported providing didactic instruction on patient approach and communication skills, with more dental hygiene programs than dental programs devoting didactic instruction time to this topic (p=.015).

Moreover, among dental and dental hygiene programs that reported including these topics in their curricula, less than half reported devoting clinical instruction time. As depicted in Table 2, only 21 percent of dental and 31 percent of dental hygiene programs reported including clinical instruction on oral manifestations of eating disorders. Of those that did report clinical instruction on oral manifestations, the average clinical instruction time was approximately thirty minutes for both dental and dental hygiene programs (p=.957). Only 17 percent of dental and 32 percent of dental hygiene programs reported devoting clinical instruction time to patient education regarding eating disorders. Of the dental and dental hygiene programs that included clinical instruction time on patient education, the average clinical time reported was approximately thirty minutes (p=.896). Similarly, only 17 percent of dental programs and 31 percent of dental hygiene programs report including patient education regarding patient-specific home dental care for those with disordered eating behaviors. Of the dental and dental hygiene programs that did report clinical instruction time on patient-specific home dental care, the average clinical time was thirty-three minutes for dental programs and twenty-six minutes for dental hygiene programs (p=.670). Lastly, study results reveal only one dental program and only 32 percent of dental hygiene programs including clinical instruction time on patient communication and approach, with an average of ten minutes reported for the dental program and eighteen minutes reported for dental hygiene programs.

#### **Beliefs Concerning Eating Disorders and Oral Health**

Participant beliefs concerning eating disorders and secondary prevention measures among dentists and dental hygienists are represented in Table 3. The overwhelming majority of the respondents to this survey agree that eating disorders are serious health issues; dental professionals have a professional responsibility to identify patients with eating disorders; dental professionals have a legal responsibility to identify patients with eating disorders; liability in identifying patients with eating disorders is an emerging health issue in dentistry; liability in referring patients with eating disorders is an emerging health issue in dentistry; and dental school faculty have an ethical responsibility to refer students presenting with eating disorders for psychological counseling.

#### **Eating Disorder-Specific Secondary Prevention Program Protocol**

Half of all dental programs (50 percent) and dental hygiene programs (54 percent) indicated that their respective programs have not identified referral agencies for those patients exhibiting oral manifestations of eating disorders (Table 4). Moreover, approximately 83 percent of dental programs and 92 percent of dental hygiene programs indicated that they have not established institutional liaisons with local/regional eating disorder treatment programs. In spite of this, approximately 70 percent of both dental and dental hygiene programs reported

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Variable	Program	Agree f (%)	Neutral f (%)	Disagree f (%)	p-value
Eating disorders are serious health issues.	Dental Dental Hygiene	23 (95.8) 88 (97.8)	0 (0.0) 1 (1.1)	1 (4.2) 1 (1.1)	.590
Dental professionals have a professional responsibility to identify patients with anorexia nervosa, bulimia nervosa, or EDNOS.	Dental Dental Hygiene	23 (95.8) 89 (98.9)	0 (0.0) 0 (0.0)	1 (4.2) 1 (1.1)	.313
Dental professionals have a professional responsibility to refer patients with anorexia nervosa, bulimia nervosa, or EDNOS.	Dental Dental Hygiene	22 (91.7) 83 (92.2)	1 (4.2) 6 (6.7)	1 (4.2) 1 (1.1)	.899
Dental professionals have a legal responsibility to identify patients with anorexia nervosa, bulimia nervosa, or EDNOS.	Dental Dental Hygiene	12 (50.0) 60 (66.7)	9 (37.5) 23 (35.6)	3 (12.5) 7 (7.8)	.135
Liability in identifying patients with eating disorders is an emerging health issue in dentistry.	Dental Dental Hygiene	13 (54.2) 46 (51.1)	8 (33.3) 35 (38.9)	3 (12.5) 9 (10.0)	.898
Liability in referring patients with eating disorders is an emerging health issue in dentistry.	Dental Dental Hygiene	12 (50.0) 47 (52.8)	9 (37.5) 35 (39.3)	3 (12.5) 7 (7.9)	.689
Dentists and dental hygiene students are in a high risk group for eating disorders.	Dental Dental Hygiene	6 (25.0) 38 (42.2)	12 (50.0) 42 (46.7)	6 (25.0) 10 (11.1)	.055
Dental school faculty have an ethical responsibility to refer students with an eating disorder for psychological counseling.	Dental Dental Hygiene	22 (91.7) 81 (90.0)	1 (4.2) 8 (8.9)	1 (4.2) 1 (1.1)	.844

#### Table 3. Beliefs regarding eating disorders (n=24 dental programs, n=90 dental hygiene programs)

Variable	Program	Yes f (%)	No f (%)	p-value
Within our program				
Referral agencies have been identified for those indicating oral manifestations of eating disorders.	Dental Dental Hygiene	12 (50.0) 41 (45.6)	12 (50.0) 49 (54.4)	.698
Patients who exhibit oral signs and symptoms of behaviors associated with eating disorders are referred for treatment.	Dental Dental Hygiene	17 (70.8) 62 (68.9)	7 (29.2) 28 (31.1)	.854
We have established an institutional liaison with eating disorder clinics and/or treatment programs.	Dental Dental Hygiene	4 (16.7) 7 (7.8)	20 (83.3) 83 (92.2)	.190
We have identified students who have signs and symptoms of eating disorder behaviors.	Dental Dental Hygiene	7 (29.2) 39 (43.3)	17 (70.8) 51 (56.7)	.209
Students who exhibit signs and symptoms of eating disorders have been referred for counseling.	Dental Dental Hygiene	7 (29.2) 38 (42.2)	17 (70.8) 52 (57.8)	.245

### Table 4. Program protocol for eating disorder-specific secondary prevention (n=24 dental programs, n=90 dental hygiene programs)

referring patients who exhibit oral manifestations of eating disorders.

With respect to the dental and dental hygiene students within their respective programs, approximately 29 percent of dental and 42 percent of dental hygiene programs reported identifying students with signs and symptoms of eating disorders. Generally these same programs report referring students with signs and symptoms of eating disorders for treatment (Table 4).

### Discussion

While the oral/systemic link is fundamentally held as a belief among dentists and other health care providers, there is growing acceptance as well as practice to include oral health and the condition of oral structures as early warning signs of potential physical and mental health issues.<sup>1-3</sup> Due to the oral and physical manifestations connected with eating disorders, this serious physical and mental health issue is a prime example of the oral/systemic link, which requires comprehensive patient assessment and coordinated health treatment. As such, it is crucial that oral health education develop the capacity among dentists and dental hygienists to assume essential roles in prevention, early recognition of oral and systemic medical diseases, and collaboration with other health care professionals. In spite of this, our study indicates that many dental and dental hygiene programs may not be providing the necessary

training within their curricula to enable emerging professionals to effectively carry out these critical roles. Furthermore, results also indicate a lack of collaboration with other health care professionals who provide treatment for patients with eating disorders.

Overall, results of our study reveal some improvements as compared with previous studies<sup>2,21</sup> that assessed curricular components of eating disorders within the dental and dental hygiene curricula. As compared to the 1990 study by Gross et al.,<sup>21</sup> our study revealed a greater percentage of both dental and dental hygiene programs that currently include general characteristics of AN, BN, and oral manifestations of eating disorders. However, the results of this study reveal more dental hygiene programs reporting the inclusion of general characteristics of AN (p<.001), general characteristics of BN (p<.001), and oral manifestations of eating disorders than respondents from dental schools (p=.003). These data are similar to the 1990 findings of Gross et al., who also reported that a higher percentage of dental hygiene programs included AN and/or BN in their curricula than dental schools.<sup>21</sup>

The observed increase in the number of both dental and dental hygiene programs that have incorporated this health issue within their curricula may be partly reflective of the observed beliefs among educators and academic leaders regarding professional and legal responsibility for eating disorder-specific comprehensive care and prevention in addition to concern regarding the seriousness of these disorders. The overwhelming majority of both dental and dental hygiene program administrators who participated in this study indicated that dental professionals have a professional responsibility to identify and refer patients with eating disorders. Furthermore, approximately half of the respondents to this survey indicated that liability in identifying and referring patients with eating disorders was an emerging issue in dentistry. These beliefs coupled with the observed perceived seriousness of eating disorders among respondents may be at the center of decisions made by program administrators to include these topics in the curricula of programs.

With regard to the didactic and clinical instruction time devoted to eating disorders, the current results also demonstrate an increase in the number of clock hours, especially among dental programs. In the previous study by Gross et al.,<sup>21</sup> dental programs reported spending an average of ten minutes on general characteristics of AN, thirteen minutes on general characteristics of BN, and eleven minutes on oral manifestations. Our study revealed an increase to an average of thirty-two minutes on AN, thirty-three minutes on BN, and approximately thirty-two minutes on oral manifestations. Dental hygiene programs also revealed an increase in instruction time on oral manifestations of eating disorders from an average of fifteen minutes<sup>21</sup> to an average of thirty-five minutes (twenty-six minutes didactic and nine minutes clinical). While there is no prescribed amount of time for instruction on oral manifestations of eating disorders in the dental and dental hygiene curricula, this is an area worthy of additional exploration. The identification of specific curriculum content and practice in clinical settings or in clinical simulations would be a necessary starting point to enhance competency in caring for patients with eating disorders.

Pertaining to patient education topics specific to eating disorders and communication skills tailored for patients exhibiting signs of such disorders, current findings reveal a large number of both dental and dental hygiene programs including didactic instruction on these topics. However, the didactic instruction time devoted to these topics ranged from approximately eighteen minutes to thirty minutes. Furthermore, only 58 percent of respondents for dental programs and 56 percent of dental hygiene program respondents indicated devoting didactic instruction on skill development in patient communication within their respective curricula. The minimal amount of didactic instruction dedicated to these topics in combination with the small number of programs that included patient communication is alarming as these would provide the necessary foundation for providing comprehensive patient care (identification of oral manifestations of eating disorders, provision of patient education and care, referral for care, and case management).

Of particular interest are results that indicate a large percentage of both dental and dental hygiene programs that do not include clinical instruction time on these topics and skills. Moreover, fewer dental programs than dental hygiene programs reported clinical instruction on topics and skills pertaining to eating disorders. For those programs that did include these topics in their curriculum, for instance, approximately 79 percent of dental programs and 69 percent of dental hygiene programs did not report clinical instruction time on oral manifestations of eating disorders; 83 percent of dental programs and 69 percent of dental hygiene programs reported no clinical instruction time on patient education on patient-specific home dental care; and 93 percent of dental and 68 percent of dental hygiene programs reported no clinical instruction time on patient communication. Again, the development of specific curricular content and clinical practice in eating disorders would be essential to develop knowledge and skill to alter current educational practices. Creation of instructional materials that promote student skill development is essential, either by actual clinical care or observation or through simulations or standardized patients.

Our findings of limited instructional time on patient assessment, patient education content, and communication approaches may suggest that dental and dental hygiene students may not be developing the necessary knowledge and practice skills to provide comprehensive patient care for patients with eating disorders. The findings from this study provide a reason for previous results<sup>18,19</sup> that indicate low participation in eating disorder-specific comprehensive care and prevention among dentists and dental hygienists. Furthermore, findings from our study support the previous work of DeBate and Tedesco, who found that lack of training regarding oral and physical manifestations of eating disorders, skill in patient approach, and knowledge of referral agencies created perceived barriers to secondary prevention among practicing dentists.20

Interpretation of our findings must consider the study's limitations. An important limitation includes the 46 percent response rate, and our inability to

determine who actually completed the survey may limit the generalizability of our findings. In addition, reported didactic and clinical instruction time devoted to these topics may have been difficult to quantify, thereby limiting the validity of the reported results. But while our study has certain limitations, it does provide a general overview of curriculum content regarding eating disorders and suggests areas for improvements.

### Conclusion

The results of our study may, in part, suggest a dissonance between the beliefs among dental and dental hygiene educators regarding the professional and legal responsibility to identify and refer patients presenting with oral manifestations of eating disorders and the number of programs that actually include sufficient instruction devoted to eating disorder strategies for comprehensive care of these patients. Although a larger percentage of dental and dental hygiene programs are now including eating disorders within their curricula than in years past, the number of clock hours dedicated to training future dentists and dental hygienists in comprehensive care of patients with eating disorders is minimal at best. As greater emphasis is placed on oral/systemic health connections and the provision of comprehensive care, many oral health professionals may not be adequately trained to identify, offer patient education, and communicate with patients regarding the oral/systemic nature of eating disorders. Therefore, it is recommended that oral health programs should provide for the inclusion of appropriate instruction and collaboration with other health care professionals to better prepare future oral health professionals for the delivery of comprehensive patient care. Educators have a responsibility to examine current curricular content and instruction time given over to issues related to eating disorders, to create educational materials addressing these issues, and to establish competencies focused on eating disorders.

Further research is needed to explore and determine efficacy of current curricula regarding eating disorders. Identifying adequate didactic and clinical instruction time needed to increase the capacity to provide comprehensive care for patients with eating disorders could then be employed in the development of curricular objectives and competencies related to the understanding of these disorders, issues related to oral preventative and treatment care for those with eating disorders, and the development of effective communication skills in dealing with patients who are suspected of suffering these disorders.

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