2016

Orofacial Myofunctional Therapy in Dental Hygiene: A Survey of Dental Hygienists and Dental Hygiene Program Directors

Anna J. Sinclair
Pacific University

Orofacial Myofunctional Therapy in Dental Hygiene: A Survey of Dental Hygienists and Dental Hygiene Program Directors

Abstract
Research shows that dental hygienists may have limited knowledge regarding orofacial myofunctional therapy (OMT), and that there is a need and desire for further education on this topic. The purpose of this study was to assess findings from a survey distributed to Washington County, Oregon, dental hygienists regarding their knowledge and perceptions of OMT, as well as assess the findings from a survey to Oregon dental hygiene program directors regarding education on orofacial myofunctional disorders (OMDs) and OMT within the dental hygiene curriculum.

A 13question anonymous survey and 6question anonymous survey were developed and approved by the Pacific University Institutional Review Board. The 14question electronic survey was emailed to the president of the Washington County Dental Hygienists' Association, who forwarded it to all association members. The 6question electronic survey was emailed directly to dental hygiene program directors in Oregon. Reminder emails were sent to both groups.

The response rate for WCDHA was 24% (n=63), and 100% (n=5) for the program directors. Fiftyseven percent (n=34) of those surveyed for the WCDHA were currently working in private practice, and most had been working either 05 years (n=22) or over 20 years (n=18). Just over half (n=30) of WCDHA respondents were familiar with OMT, and the majority (n=37) were interested in learning more about OMT. Three (60%) of the program directors indicated their programs did not include education on OMDs, and the majority (n=4) indicated they were unsure if education on OMT should be included in dental hygiene curriculum.

With the majority of hygienists not receiving training on OMT during their dental hygiene programs, and not utilizing OMT in their practices, more information and education should be provided to the dental hygiene community regarding OMDs and OMT.

Degree Type
Capstone Project

Degree Name
Bachelor of Science

First Advisor
Kathryn Bell, RDH, MS

Subject Categories
Dental Hygiene

Orofacial Myofunctional Therapy in Dental Hygiene: A Survey of Dental Hygienists and Dental Hygiene Program Directors

---

Anna J. Sinclair

April 2016

Abstract

Research shows that dental hygienists may have limited knowledge regarding orofacial myofunctional therapy (OMT), and that there is a need and desire for further education on this topic. The purpose of this study was to assess findings from a survey distributed to Washington County, Oregon, dental hygienists regarding their knowledge and perceptions of OMT, as well as assess the findings from a survey to Oregon dental hygiene program directors regarding education on orofacial myofunctional disorders (OMDs) and OMT within the dental hygiene curriculum.

A 13-question anonymous survey and 6-question anonymous survey were developed and approved by the Pacific University Institutional Review Board. The 14-question electronic survey was emailed to the president of the Washington County Dental Hygienists' Association, who forwarded it to all association members. The 6-question electronic survey was emailed directly to dental hygiene program directors in Oregon. Reminder emails were sent to both groups.

The response rate for WCDHA was 24% (n=63), and 100% (n=5) for the program directors. Fifty-seven percent (n=34) of those surveyed for the WCDHA were currently working in private practice, and most had been working either 0-5 years (n=22) or over 20 years (n=18). Just over half (n=30) of WCDHA respondents were familiar with OMT, and the majority (n=37) were interested in learning more about OMT. Three (60%) of the program directors indicated their programs did not include education on OMDs, and the majority (n=4) indicated they were unsure if education on OMT should be included in dental hygiene curriculum.

With the majority of hygienists not receiving training on OMT during their dental hygiene programs, and not utilizing OMT in their practices, more information and education should be provided to the dental hygiene community regarding OMDs and OMT.

Introduction

Orofacial myofunctional therapy can be considered an umbrella term for the treatment of a myriad of abnormal functions that interfere with normal orofacial muscle functioning and/or dentofacial development (2,3,9). Historically, OMT has been targeted towards the retraining of tongue habits and postures. However, modern practice has expanded to include management of disorders including, but not limited to, mouth breathing, sleep apnea, forward head posture, tongue thrust, speech pathology, malocclusions and open bites, various parafunctional habits, and dysphagia (2,6,7,9).

OMT is thought to have originated within the field of orthodontics, as early as the turn of the twentieth century. This therapy continues to be practiced in a variety of healthcare settings, and is used by professionals in the fields of general dentistry, orthodontia, speech-language pathology, lactation consulting, osteopathy, and by various medical team members. Due to the wide variety of fields currently utilizing OMT techniques, it has been stated that an interdisciplinary approach would be of the most benefit for both patient care and knowledge sharing between clinicians (2,3).

Of the various disciplines utilizing OMT, it has been proposed that perhaps dental hygienists are in a prime position to recognize OMDs.

There are many reasons for this point of view, including: frequency of patient visits to a dental hygienist versus other medical providers, hygienists' knowledge of orofacial anatomy, and their experience motivating patients and individualizing treatment (2,9). In addition, it is likely that dental hygienists that have been employing myofunctional therapy techniques in their respective practices lack a formal title or training, due to limited training options available.

A search of the literature revealed that there is in fact a lack of formal education throughout the field of myofunctional therapy in the United States, leading to an absence of official licensure or governing bodies. The majority of individuals practicing these therapy techniques are indeed licensed healthcare professionals, however, orofacial myofunctional therapy typically serves only as a unofficial complement to the primary services provided (3). Historically, knowledge gained in this specialty is either self-taught, gained on-the-job, or passed down from a colleague.

More recently, short introductory or advanced courses are being offered via select universities, institutes, and associations (4,9). This unique method of training provides a large and diverse group of professionals direct access to leaders in the field. However, in order to unify the specialty of OMT, steps will need to be taken to formalize training among a wide range of healthcare professionals.

Perhaps the best method to prepare future dental hygienists to practice effective OMT is to include education on the specialty within the dental hygiene curriculum. This type of instruction will better prepare the dental hygienist to recognize and treat patient disorders that are most likely to be noticed within general or alternative dental settings.

A small number of dental hygiene programs, such as the one at Kalamazoo Valley Community College, have recognized the importance of their students ability to recognize OMDs and provide appropriate referrals, and have responded by including orofacial myology coursework to the curriculum (5).

In addition to expanding the clinician's knowledge and patient care abilities, myofunctional therapy training will better prepare the graduating hygienist to work cooperatively with a number of other healthcare professions (1,8). This aligns with the "whole-body" and interdisciplinary approach that many dental hygiene programs promote (1,2). Although OMT may seem a natural fit within the dental hygiene curriculum, little has been done to promote this inclusion.

Inclusion of OMT into professional and graduate level training has benefits to students, as well as healthcare professions. In addition, official inclusion would likely aid in recognition of OMT within the medical community at large, as well as increasing healthcare provider knowledge of myofunctional disorders and related treatment options.

Research on the topic of OMT within the dental hygiene profession was challenging due to the limited number of published articles on the topic, and lack of current research. Much of the research that has been published on OMT is limited to reports on individual treatment cases, or articles that are editorial in nature.

This report will discuss the research questions, “what are the current attitudes among dental professionals regarding orofacial myofunctional therapy?”, and “does current dental hygiene curriculum prepare practicing dental hygienists to recognize orofacial myofunctional disorders?”.

Materials & Methods

An electronic survey of Washington County Dental Hygienists’ Association (WCDHA) component members was conducted between January 24th and March 30th. An electronic survey of directors of accredited dental hygiene programs in Oregon was conducted between February 16th and March 30th. Both survey instruments were created by the student researcher, using Qualtrics Survey Software online. Both respondent information and IP address tracking were disabled within the Qualtrics survey software settings. The first survey was a 13-item survey instrument, and the second survey was a 6-question survey instrument. Questions were both closed and open-ended, yes/no, Likert scale, and self-reporting type questions. The survey instruments and study protocols were reviewed by Pacific University’s Institutional Review Board, and were ultimately approved as an exempt study.

An invitational email with an anonymous survey link was emailed to the president of the WCDHA, which was forwarded to the association listserv (n=266) on January 24th, 2016. On February 9th and March 8th, follow-up reminder emails were forwarded to the email distribution list, by the president of the association. The second survey was emailed directly to directors of accredited dental hygiene programs in Oregon (n=5), in early February 2016, with a follow-up reminder email sent on February 23rd.

Individual question responses for both surveys were tallied using the Qualtrics survey software, and organized into like-categories.

Results

For the survey sent to the WCDHA listserv, comprised of 266 members, 63 surveys were returned, yielding a 24% return rate. It is important to note that the listserv includes members that are not dental hygienists, therefore were not eligible to take the survey. The majority of respondents (57%, n=34) stated that they worked in a private practice setting, and have been working 0-5 years (37%, n=22). Dental hygiene demographics can be seen in Table 1 and Table 2.

Table 1: Employment Demographics of WCDHA Dental Hygienists (n=60)

Employment Setting	n
Private Practice	34
Academia	19
Expanded Practice	5
Not employed	5
Managed Care	4
Public Health	2
Retired	2
Self-employed	2

*Total number greater than number of respondents because respondents could provide more than one response.

Table 2: Number of Years Practicing

Number of respondents	Category	n	Percent
60	0-5	22	37%
	5-10	9	15%
	10-15	7	12%
	15-20	4	7%
	20+	18	30%

When asked if they were familiar with OMT, 51% (n=30) answered 'yes', and 93% (n=54) indicated they did not use or practice OMT. Additionally, 95% (n=54) answered that they did not receive training in the field of OMT during their dental hygiene program. Finally, 81% (n=47) of WCDHA hygienists stated that they did not work with another provider who utilizes OMT with patients. Results can be seen in Table 3. Respondents were also asked to indicate which categories of health care professionals were also myofunctional therapists (Table 4).

Table 3: Familiarity with OMT

	# of respondents	Yes N (%)	No N (%)
I am familiar with OMT.	59	30 (51%)	29 (49%)
I use or practice OMT.	58	4 (7%)	54 (93%)
I received training in the field of OMT during my dental hygiene program.	57	3 (5%)	54 (95%)
I work with another provider who utilizes OMT with patients.	58	11 (19%)	47 (81%)

Table 4: Myofunctional Therapist Professions as Indicated by WCDHA Respondents

Myofunctional therapists are:	n
Speech-Language Therapists	48
Dentists	43
Orthodontists	38
Dental Hygienists	34
Physicians	26
Osteopaths	18
Lactation consultants	1
TMJ Specialist	1

Prosthodontist	1

*Total number greater than number of respondents because respondents could provide more than one response.

Those that were currently practicing OMT were given an option to indicate how they received their training. Four percent (n=2) indicated they received training from a program. Two percent (n=1) received training on the job, 2% (n=1) were self-trained, and 4% (n=2) were trained by another therapist. Results can be seen in Table 5.

Table 5: Orofacial Myofunctional Therapy Training Methods

	# of respondents	I do not practice OMT N (%)	On the job N (%)	Self-trained N (%)	From another therapist N (%)	From a program (please specify) N (%)
If you currently practice OMT, how did you receive your training (check all that apply:	45	41 (91%)	1 (2%)	1 (2%)	2 (4%)	2 (4%)

*Total number greater than number of respondents because respondents could provide more than one response.

WCDHA hygienists were asked if they were interested in learning more about OMT; 65% (n=37) answered ‘yes’, and 30% (n=17) answered ‘maybe’. Additionally, they were asked if they would be interested in receiving training in the field of OMT. Forty-seven percent (n=26) chose ‘yes’. Those that answered ‘yes’, were given the opportunity to indicate what informational format would be of most interest to them; 45% (n=23) chose ‘online CE course”. Results can be found in tables 6 and 7.

Table 6: Information/Training on OMT

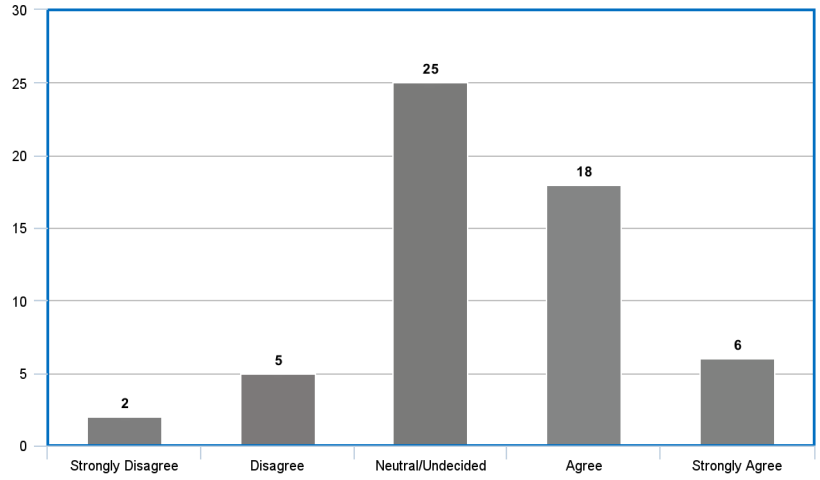
	# of respondents	Yes N (%)	Maybe N (%)	No N (%)
I am interested in learning more about OMT.	57	37 (65%)	17 (30%)	3 (5%)
I would be interested in receiving training in the field of OMT.	55	26 (47%)	23 (42%)	6 (11%)

Table 7: OMT Training

	# of respondents	1-3 day course N (%)	Online CE N (%)	Informational booklet or written materials N (%)	Other: CE course at a convention N (%)
What format of training would be of most interest to you?	51	20 (39%)	23 (45%)	7 (14%)	1 (2%)

Finally, hygienists were asked whether they believed they would be able to incorporate OMT services into their practice, of which 45% (n=25) were neutral or undecided. Results can be seen in Figure 1.

Figure 1: Incorporating OMT into Hygiene Practice (n=56)



For the surveys sent to the Oregon accredited dental hygiene program directors, 5 surveys were sent, and 5 were completed, yielding a 100% return rate. Results showed that three directors (60%, n=5) graduated from an associate degree program, and two directors (40%, n=5) graduated from a bachelor's degree program. See Table 8 for results.

Table 8: Dental Hygiene Program Type

	# of respondents	Certificate N (%)	Associate N (%)	Bachelor's N (%)
Did you graduate from a certificate, associate, or bachelor's degree program?	5	0 (0%)	3 (60%)	2 (40%)

When asked to respond about the year of their dental hygiene program graduation, years indicated were 1973, 1975, 1978 (2 responses), and 1986. One of the respondents (20%, n=1) indicated they have previous training in OMT (Table 9). Three respondents (60%, n=3) indicated they were the director of an associate program, while two respondents (40%, n=2) indicated they were the director of a bachelor's degree program (Table 10).

Table 9: Previous Training in OMT

	# of respondents	Yes N (%)	No N (%)
I have previous training (CE course, school training, etc.) in OMT.	5	1 (20%)	4 (80%)

Table 10: Degree offered by director's current program

	# of respondents	Associate degree N (%)	Bachelor's degree N (%)
Please choose the degree your dental hygiene program offers	5	3 (60%)	2 (40%)

Three respondents (60%, n=3) indicated that their program did not include education on OMDs (Table 11), and four respondents (80%, n=4) indicated they were undecided on whether education on OMT should be included in dental hygiene curriculum (Table 12).

Table 11: Current Inclusion of education on OMDs Within the Program Curriculum

	# of respondents	Yes N (%)	No N (%)	Unsure N (%)
The program includes education on OMD's.	5	2 (40%)	3 (60%)	0 (0%)

Table 12: Future Inclusion of OMT in Dental Hygiene Curriculum

	# of respondents	Yes N (%)	No N (%)	Undecided N (%)
Education on OMT should be included in dental hygiene curriculum.	5	1 (20%)	0 (0%)	4 (80%)

Discussion

Primary data showed a nearly equal split in those that were familiar with OMT and those that were not. Primary data collected also showed that dental hygienists believed other healthcare professions to be the predominant providers of myofunctional therapy.

Secondary data supports the reality of this perception, as little data exists to show progress regarding the inclusion of myofunctional therapy into dental hygiene practice since Michele Darby proposed the inclusion of OMT into dental hygiene education in 1975 (1). It is possible that secondary data may also purport the notion that there are less dental hygienists practicing OMT, due to the lack of OMT research actually published by hygienists.

Primary data also showed that the majority of hygienists indicated they did not work with another provider who utilizes OMT. Today, many health professions programs are focusing on interdisciplinary approaches to patient care, increasing the likelihood that these results will change in the future. Secondary data did support the notion that OMT should infact be interdisciplinary therapy, and professions should join together to further OMT research and strengthen breadth of care for these patients (1, 2, 8).

Forty-two percent of dental hygienists agreed or strongly agreed that they would be able to incorporate OMT services into their practice. In her article, “Myofunctional Analysis and its Role in Dental Assessments and Oral Health”, Paula Fabbie agrees. She states that providing OMT services can be as simple as incorporating new items into the medical history questionnaire, in order to screen for OMDs and parafunctional habits, and in turn, to provide additional therapeutic services or appropriate referrals. Dental hygienists can also perform simple extraoral and intraoral checks with the exams they are already performing (9).

With approximately one-third of respondents indicating that they did not provide referrals to patients in need of OMT services, dental providers may be omitting a crucial aspect of care that can be easily identified in the dental office. These exams and referrals should be completed in order for dental practices to be at the comprehensive standard of care practiced in many healthcare settings today.

There are many opportunities for further research on OMDs and in the field of OMT. Plans for future research should include systematic studies regarding the prevalence of OMDs, as well as their impact on normal orofacial function and development (9). Research may also cover the inclusion of OMT into dental hygiene education, as well as the standardization of certification and licensure for orofacial myofunctional therapists.

Program

In the survey to WCDHA hygienists, nearly all respondents indicated that they were or might be interested in learning more about OMT, and the majority being interested in an online continuing education (CE) course format. This led to the development of a DentalCare.com CE course by the author.

The mission of the program is to increase knowledge about the topic of orofacial myofunctional therapy, and its role in traditional dental settings. The program goals include implementing effective assessment procedures for online learning, and increasing awareness of OMT among dental team members and the general public.

Objectives to meet program goals include targeting the CE course to dentists, dental hygienists, and students, developing a summative post-test for DentalCare.com course, and reviewing user satisfaction surveys. Sustainability of the program is achieved through the 3-year presence of the course on DentalCare.com, with an expiration date in 2019. In addition to the DentalCare CE course, the author is developing a table clinic presentation for the attendees of the American Dental Hygienists' Association (ADHA) annual conference in Pittsburgh, Pennsylvania, and giving an oral presentation at Pacific University's Dental Hygiene Capstone Night.

A timeline was developed on February 28th, 2016, to develop and implement the program. The author's proposal to develop a DentalCare.com CE course was submitted March 16th, and the proposal was accepted March 21st. The written DentalCare.com course is to be submitted for peer-review by April 30th, 2016. The ADHA table clinic abstract was submitted March 24th, and officially accepted April 5th. The table clinic poster is to be designed and printed by May 15th, with a presentation date of June 8th, 2016 in Pittsburgh. The Capstone Night PowerPoint was submitted for approval April 20th, and the presentation takes place May 3rd, at Pacific University.

Due to the online nature of the DentalCare CE course, the author will not need to use funds out of the $50.00 allotted program budget. The Capstone Night presentation will also not require use of allotted funds. The ADHA table clinic poster will cost approximately $130.00 for printing and shipping, and will be paid for with the student's personal funds.

Program Evaluation

Formative evaluations of this program include the author's timeline, peer-review of the CE course, and post-course user reviews. The timeline has served as a guide for the author, to ensure completion of all necessary steps for program implementation. The peer-review of the CE course will allow for necessary changes to the course content before publication. The post-course reviews will provide the reader with a chance to rate the CE course; this student/professional feedback will allow the author to make necessary changes to the course content in the future. In addition, the author will pilot test the Capstone presentation, table clinic presentation, and the DentalCare CE course, in order to assess for audience understanding, anticipate audience questions, and make necessary changes before final presentation/submission.

Summative evaluations of this program include post-course test, and Capstone presentation evaluation. The DentalCare.com post-course test will be the final tool used to assess the reader's achievement of the course objectives and understanding of the course material. The Capstone presentation evaluation will be the final graded portion of the PowerPoint material, as well as the delivery of content on Capstone Night. This will be completed by dental hygiene faculty.

Final Report

As stated previously, the DentalCare CE course will be specifically targeted to dentists, dental hygienists, and students. This will allow the course to reach a wider audience and a more diverse group of dental professionals.

Because the CE course will be active for 3 years, it also has the potential to reach a large number of people, as DentalCare.com is a leader in online continuing education for dental professionals.

Next steps for this program include presenting at Capstone Night, and presenting at the 2016 ADHA table clinic competition. Once the author completes these presentations, they hope to expand the course material to other dental online education sites, and continue research on OMDs and OMT. In addition, the author will consider certification through the International Association of Orofacial Myology to aid in the validity of future clinical and research endeavours.

The main roadblock encountered during the development of this program was during the background research phase. Available literature on the topic of OMT, in general, was outdated and limited. In addition, very few secondary sources, such as systematic reviews or meta-analyses, were available to add to the author's research. Lastly, the author was not able to locate many articles on the topic of OMT as it relates to the dental hygiene profession. This roadblock translated to writing the DentalCare CE course; writing material that needs to be evidence-based, without much evidence, proved difficult!

Suggestions for improvement of this program include earlier survey distribution and closure, as well as earlier initiation of the DentalCare.com course material. Earlier survey distribution would have provided the author with results sooner, therefore allowed for the ability to decide on program type sooner.

This would have possibly led to quicker submittal of the CE course, and the ability to start the peer-review process before the Capstone presentation.

In conclusion, the author would like to first thank her faculty advisor, Kathryn Bell, RDH, MS, for her guidance throughout the Capstone and program development process, as well as her mentorship in research and writing. The author would also like to thank Gail Aamodt, RDH, MS, for her guidance during the topic selection and Capstone processes.

References

1. Darby, M. L. Oral myofunctional therapy within the Dental Hygiene Curriculum. Int J Oral Myol. 1975 July;1(3): 121-122.

2. Fabbie, P. Myofunctional Analysis and its Role in Dental Assessments and Oral Health. RDHmag.com. 2015 Aug;35(8): 77-86

3. Haruki, T., Kishi K., and Zimmerman, J. The importance of orofacial myofunctional therapy in pediatric dentistry: reports of two cases. J Dent Child. 1999;66(2): 103-109.

4. International Association of Orofacial Myology [Internet]. 2014 [cited 2016 Apr 18]. Available from: http://www.iaom.com/introcourses.html.

5. Mills, C. International Association of Orofacial Myology History: Origin - Background - Contributors. International Journal of Orofacial Myology . 2011;37: 5-25.

6. Nishimura, T, Takahashi, C, and Takahashi, E. "Dental Hygiene Residential Care in a 3-year Dental Hygiene Education Programme in Japan: Towards Dysphagia Management Based on the Dental Hygiene Process of Care." International Journal of Dental Hygiene. 2007; 145-50.

7. Smithpeter, JoAnn, and Covell, David. "Relapse of Anterior Open Bites Treated with Orthodontic Appliances with and without Orofacial Myofunctional Therapy."American Journal of Orthodontics & Dentofacial Orthopedics 137.5 (2010): 605-14. Web.

8. Wells, A. Myotherapy for the Tongue Thrust Patient. J Am Dent Hyg Assoc. 1965; 39:87-88.

9. Winslow, K. Improving Overall Health Through Orofacial Myofunctional Therapy [interview]. California Dental Hygienists' Association [Internet]. 2015 Winter [cited 2015 Nov 29]; 2015;32(1) 23-27. Available from: http://cdha.org/portfolio/volume-32-winter-2015. Interview by Carol Lee.