Commentary

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RESEARCH IN OROFACIAL MYOLOGY

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Introduction

The purpose of this article is to examine selected issues related to the conduct of research within the profession of orofacial myology. This article is also intended to summarize several of the research issues presented at the 1987 International Association of Orofacial Myology convention in Chicago, Illinois.

Orofacial myology, like many specialties, is primarily a clinical field. Historically there has been a tendency for practitioners to avoid conducting research. An underlying philosophy might suggest that practitioners should provide clinical treatment while research should be conducted within the academic and laboratory settings. After all, those in the academic environment are more likely to be trained in the skills and methods of conducting research. To a large degree this is a valid assumption. However, a case can be made for the practicing therapist also to be involved in research for the following reasons:

- (a) The therapist has access to the client population.
- (b) The therapist can improve clinical skills through systematic evaluation of treatment protocols.
- (c) The therapist is the eventual caregiver.

Research Findings As Practice Validation

In any clinical field, practice should be based upon research. It is surprising, however, how much clinical practice is not validated by empirical data. Practice tends to follow the established way of doing things. Often practice methods follow those taught in early textbooks which do not reflect new findings in the field. While research based practice techniques should be used in all clinical practices, the need for doing so is amplified in a clinical practice area that is controversial and has yet to gain general recognition. It is essential that other related professionals begin to understand and accept the practice of orofacial myofunctional therapy if this area of professional practice is to gain broad credibility. One of the best ways to achieve this recognition is by scientifically demonstrating the validity of the profession and its practice techniques. As practitioners we must all feel positive about the benefits we have provided patients, and we might wonder how anyone could doubt the efficacy of our treatments. Think of the orofacial myofunctional disorders that have been corrected, which we know have helped stabilize the results of orthodontic treatment. If these results have occurred, why are there so many skeptics? The reason is simply the lack of sufficient scientifically documented objective evidence to support the

claims of the therapist. One way of defining research might be as "a method of convincing others on their terms, of what we think we know"; or alternatively "of finding out that what we thought we knew was not as it seemed".

The classic example of the credibility issue is the American Speech and Hearing Association position paper on tongue thrust. The official ASHA position, first published in 1975¹, has yet to be modified. The position statement followed a review of over 250 articles, and concluded that no valid evidence existed to establish tongue thrust as a clinical entity, or to validate the effects of orofacial myofunctional therapy. If myofunctional therapy is valid treatment, we would expect that over a 12 year period, research findings would have demonstrated the validity of the problem and the treatment.

Research based findings are necessary to support practice methods and to establish credibility for any type of clinical practice, and especially for orofacial myology. It is equally important that this profession be involved in the research rather than leaving this task to others who might prefer to disprove rather than validate the theories of the practice.

Problems Related To Myofunctional Research

There are problems in conducting research in orofacial myology as there are in any area. Some of these are as follows:

(a) *Causality and relationships.* Relationships between variables do not necessarily imply cause and effect. Biomedical laboratory research models have traditionally handled questions of causality through the use of experimental designs². Such designs allow for tight control of the sample and manipulation of the treatment variables. Unfortunately, when the study population consists of human subjects undergoing real treatments, the experimental model will not always apply. There are however, alternative designs that can be used to establish directionality to relationships. One example is the use of causal modeling incorporating multivariate correlational techniques. In this model, the effects of intervening variables are adjusted for statistically, rather than being controlled for experimentally³.

(b) *Sampling* is a potential problem when researching orofacial myofunctional disorders. Selecting a broadly defined sample (e.g. including different types of malocclusions) might increase sample size and generalizability, but at the same time introduce a variety of uncontrolled

extraneous variables. If on the other hand, the sample is more specifically defined (e.g., one type of malocclusion) to limit non-treatment effects, the research findings are likely to have limited generalizability. One approach is to use specifically defined samples and repeat the study for different samples. This procedure may be expensive and time consuming, but remains the best alternative.

(c) *Reliability and Validity*⁴ are concerns in any research study. Specific to research in orofacial myology are reliability and validity issues related to sampling, and to the kinds of outcome criteria which we use for measurement. Inadequate sample size can be a major problem in orofacial myofunctional studies and clearly threatens the overall validity of the findings. We must carefully determine whether the chosen outcome criteria are behavioral or physiological. We should, whenever possible, choose measures of the selected criteria that have established reliability and validity. If such measures do not exist, then we have a responsibility to evaluate the reliability and validity of any new measures we develop as part of the research.

Collaboration As A Facilitator For Research

Research collaboration can be an important endeavor for orofacial myologist. Collaboration can take place in at least two ways.

(a) *INTERPROFESSIONAL COLLABORATION* such as with orthodontists, dentists, and other related professionals. The proposed advantages of this type of collaboration are: Additional expertise especially for assessment and measurement of orthodontic phenomena; improved credibility between professions; and assistance in providing the required sample. Corresponding disadvantages may be: Difficulty in finding cooperative collaborators who believe they benefit from the relationship; and possible difficulty in working together because of fundamental differences in points of view.

(b) *INTRAPROFESSIONAL COLLABORATION* working with other orofacial myologists who share an interest in similar research questions. Possible advantages are: Shared resources and expertise; mutual support system; ability to increase data collection and sample size; and shared workload. Disadvantages can be: Increased travel costs if participants are in different geographical regions; potential for reliability problems between data collectors; and potential for sampling differences between participants.

Research collaboration can be accomplished with as few as two professionals with common goals working on a shared research project, or could involve a major undertaking involving numerous research projects and possibly hundreds of participants. One example of a large scale collaborative research effort was the Western Interstate Commission for Higher Education (WICHE) Nursing Research Development Project⁵. This federally sponsored project was designed to promote the development of collaborative nursing research studies within the Western United States. The project was responsible for

facilitating over 50 small group research projects. While this project might differ from a collaborative research effort in orofacial myology in terms of its size and clinical area, there are numerous similarities. Specifically these are as follows:

(a) most participants in the Nursing Research Development project were from clinical rather than academic settings.

(b) most participants had little or no prior research training or expertise.

(c) research groups were formed on the basis of shared interests in specific research questions.

(b) technical and statistical support was available in the form of consultation to each of the groups.

(e) facilitators and inhibitors identified in this project should be generalizable to similar collaborative undertakings.

The Nursing Research Development Project demonstrated that motivated clinicians, with some outside support and assistance, can be successful at conducting research. Also of note, is that many individuals who joined the project with no research experience, now typically conduct research in conjunction with their current positions.

When a research group is formed, members should identify what resources are present within the group, and what support is necessary from outside. Outside resources usually involve statistical and design consultation, as well as data processing services.

Determining Research Priorities

Once a research effort begins, it is helpful to identify areas to pursue and corresponding research questions. This can be accomplished in several ways. Often, representatives of a particular specialty will conduct a Delphi Study of research priorities⁶. A Delphi Study is essentially a multiple round opinion survey. Respondents are provided with group feedback following each round, and can modify their next set of responses. The procedure increases group consensus and is often used to identify key issues such as priorities for research.

While the Delphi method does increase group consensus, subsequent research has demonstrated that a single round opinion survey is also capable of identifying the same research priorities from a given group⁷. Regardless of the method, it is important that some form of group opinion be established to identify relevant areas for research in orofacial myology.

Suggestions

Several specific steps can be taken to promote research participation by orofacial myologist. These include:

(a) Conduct a thorough review of the research literature related to orofacial myofunctional therapy, especially since 1975.

(b) Conduct a representative survey of the profession to identify priorities for research topics.

(c) Form the framework for collaborative groups to study questions of common interest.

(d) Identify the additional resources needed to support a research effort.

Hopefully, the 1987 IAOM conference research session will have served as a starting point from which to take some of these first steps. With motivated individuals, there is no reason why the research efforts in orofacial myology cannot be pursued toward the long term goal of scientifically evaluating the validity of the practice.

Editorial remarks: A recent comprehensive literature review by Mary V. Andrianopoulos and Marvin L. Hanson, University of Utah, Salt Lake City, appears in the April 1987 issue of *Angle Orthodontist*, pp 121 - 135, Title: *Tongue-thrust and the Stability of Overjet Correction*.

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