CONTROVERSIAL THERAPY AND EVIDENCE-BASED PRACTICE: THE CLINICIANS’ PERSPECTIVE

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Evidence-Based Practice is a process by which clinicians select assessment and intervention approaches to provide the most effective and efficient services possible. According to Sackett, Strauss, Richardson, Rosenberg, and Haynes (2000) it involves the combination of current research, clinical expertise and client values. The purpose of this investigation was to explore one situation in which there is conflict between the three components of EBP in relation to one therapeutic approach. Specifically, although the current research evidence does not support the use of non-speech oral motor therapy (NSOMT) with children who have phonological and/or articulation disorders, approximately 85% of clinicians use it, based on their expertise, as reported by Hodge, Salonka, and Kollias (2005). To date, there have been no detailed descriptions of clinicians’ views and opinions on controversial treatments, like NSOMT, and EBP. This study was developed to learn more about clinicians’ thoughts and views on NSOMT and EBP.

The participants were speech-language pathologists who have been practicing for over five years and who have used NSOMT for children with phonological and/or articulation disorders. Each clinician participated in a one-on-one interview with the researcher. During the interviews, they were asked questions pertaining to their client caseload, their history with using oral motor therapy, the three aspects of EBP, and EBP and NSOMT. The interviews were videotaped and transcribed, and the data were coded and analyzed for emergent themes regarding the clinicians’ opinions on NSOMT.
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INTRODUCTION

Evidence Based Practice (EBP) is “the integration of the best current research evidence available regarding a topic, with clinical expertise, and client values” (Sackett, Strauss, Richardson, Rosenberg, & Haynes, 2000, p. 1). It is a process by which clinicians select assessment and intervention approaches to provide the most effective and efficient services possible. Current research evidence refers to support from the research that has been conducted on the topic. Clinical expertise includes a clinician’s experience and outlook on a topic. The final aspect, the client’s or patient’s values, incorporates the client’s perspectives into the assessment and treatment processes. Agreement and collaboration among these three aspects maximize the clinician’s potential for providing successful treatment programs.

All three aspects of EBP should be in sync with each other (ASHA, 2005). Disagreements between research evidence, clinical expertise, and client values may result in negative impacts for the client; he/she may end up getting treatment that is inappropriate and/or inefficient. These disagreements may also cause controversy/conflict and end up alienating researchers, clinicians, and clients from each other. Therefore, all three aspects should support any treatment method used.

Gallagher (2002) reported that EBP began in the late 1980’s in medicine, and proceeded to influence other healthcare professionals including speech-language pathology throughout the 1990’s. The American Speech-Language-Hearing Association has promoted the use of EBP over the past decade (e.g., ASHA, 2005; Dollaghan, 2004; Yorkston et al., 2001). Despite this emphasis, only some clinicians incorporate EBP into their daily practice. In a survey of 240 clinically based speech-language pathologists, for example, Zipoli and Kennedy (2005) found that clinicians had positive attitudes towards EBP. Relatively few of them (17.7%), however,
reported actually using research studies in clinical decision-making, within the 6 months prior to the survey. Lack of time was perceived as the most substantial barrier to incorporating EBP. Other barriers reported included lack of knowledge and skills about EBP, insufficient resources to use EBP, and the quantity and quality of the research that is available.

*Non-Speech Oral Motor Therapy (NSOMT)*

The purpose of the present investigation is to examine clinician’s thoughts about situations in which there is conflict between research evidence, clinical expertise, and client values. One such case is the use of Non-Speech Oral Motor Therapy (NSOMT) for children with phonological and/or articulatory disorders (i.e., children with speech errors that are not secondary to another diagnosis). According to Lof and Watson (as cited in Lof, 2006), NSOMT is “any technique that does not require the child to produce a speech sound but is used to influence the development of speaking abilities” (p. 1). Ruscello (as cited in Lof, 2006), defined it as “a collection of nonspeech methods and procedures that claim to influence tongue, lip, and jaw resting postures, increase strength, improve muscle tone, facilitate range of motion, and develop muscle control” (p. 1). The conflict that arises from the clinical use of NSOMT is that the research evidence does not support its use, but it is widely used by clinicians (based primarily on their clinical expertise). In recent surveys, 85% of clinical speech-language pathologists reported that they use NSOMT as at least part of their therapy protocol (Hodge, Salonka, & Kollias, 2005; Watson & Lof, 2004). In an effort to learn more about this issue, the present investigation collected and examined clinicians’ viewpoints and opinions on NSOMT and EBP.

*Support for NSOMT.*

The support for the use of NSOMT with children who have phonological and/or articulation problems has been based primarily on theories of motor speech development, non-
peer reviewed clinical reports, and clinical experiences. Rosenfeld-Johnson (1999), for example, stated that NSOMT improves speech clarity by increasing motor awareness, normalizing tactile sensitivity, teaching more normal movement patterns, and improving the ability to produce speech sounds in order to maximize intelligibility. Forrest (2002) listed additional theoretical reasons that have previously been stated in support of NSOMT. One was that engaging in non-speech activities would break the complex behavior of speech down into smaller parts, so that it could be acquired more easily. Another was that children with poor speech may have limited access or knowledge regarding their articulators. New information, presumably, can be gained by breaking speech down into specific movements. It was also proposed that NSOMT followed a hierarchy of articulatory movements similar to that found in normal development. This was based on the assumption that speech develops from earlier occurring behaviors, like sucking and chewing. As a result, improvements in non-speech movements should serve as the foundation to speech development.

In terms of research evidence in support of NSOMT, Rosenfeld-Johnson (1999) stated that the use of horns has helped children with lip closure and that straws have facilitated tongue movements (specifically tongue retraction). These changes were then promoted to advance overall speech production skills. It is important to note, however, that this report was based exclusively on her personal prior clinical experiences. It did not present any specific data and was not peer reviewed. Database searches have revealed no peer reviewed research-based support for NSOMT (see also Brackenbury, Burroughs, & Hewitt, 2008).

Survey studies by Hodge, Salonka, and Kollias (2005) and Watson and Lof (2004) revealed clinical expertise to be the primary support for clinician’s decisions to use NSOMT. In both surveys 85% of the respondents (149 and 537 speech-language pathologists, respectively)
reported using NSOMT within the past five years. The primary reasons given for using NSOMT were (a) a high degree of exposure to NSOMT products and materials, (b) prior clinical success with NSOMT (either their own or a colleague’s), and (c) beliefs that NSOMT helps in forming the foundation to acquire more complex movements required for speech, that speech develops from earlier occurring oral behaviors, and that NSOMT helps to build up strength needed to produce speech.

Evidence against NSOMT

Evidence against NSOMT with children who have phonological and/or articulation problems is based on research done in the areas of motor speech development, muscle movement, muscle strength, and the relationship between oral motor exercises and articulation. In terms of improving muscle strength, Lof (2007) reported that NSOMT exercises do not tax the musculature enough to increase strength and that the speech task does not require much strength. He cited evidence that the lip strength required for speech is only 10-20% of its maximum and that the jaw strength required for speech is only 11-15% of what it is capable of producing. In terms of range of motion, he stated that agility is required more than the ability to be able to do exaggerated movements. Finally, Lof reported that prior to the age of 7 children do not have the cognitive ability to transfer exercises done for awareness to speech.

Taken together, this evidence does not support the use of NSOMT for children with phonological and/or articulation errors.

In a review of the literature on motor speech development, Forrest (2002) did not find support for the use of simple behaviors to master complex ones. Likewise, Love (2000) stated, “…speech movement control was mediated at a different level in the nervous system than was non-speech movement control” (p. 142). In addition, Moore & Ruark (1996) found that the
muscular organizations for speech and non-speech behaviors are task-specific and separate from each other (at least for 15-month-olds). They found no relationship between speech and earlier occurring non-speech behaviors such as chewing and sucking. Therefore, training on non-speech oral motor exercises should not lead to the development of a complex behavior such as speech.

Forrest (2002) and Lof (2003; 2006; 2007) reported that although the same muscles are used for speech and non-speech activities (like chewing), they move differently for each activity. Weismer (as cited in Lof, 2002) stated that the organization of the nervous system is quite different when the same muscles perform different activities. This suggests that improving the movement in non-speech activities would not carry-over to speech.

There is very limited direct evidence on the effects of NSOMT on speech sound production. According to Davis and Velleman (2000) at present there is no research to support that oral motor therapy helps to improve speech production. This continues to be the case. A single subject study of a 9 year-old-boy by Bush, Stenger, Mann-Kahris, and Insalaco (2004) examined whether traditional speech stimulation and modeling or NSOMT exercises would improve his articulation more. They found that introduction and withdrawal of NSOMT did not cause any change in his articulation.

The following statement by Peterson-Falzone, Trost-Cardamone, Karnell, & Hardin-Jones (2006) seems to reflect the research field’s general impression of NSMOT,

Do not invest time or advise a parent to invest time and money addressing a muscle strength problem that may not (and probably does not) exist. It is very frustrating to see clinicians working on “exercises” to strengthen the lips and tongue tip when bilabial and lingua-alveolar sounds are already evident in babble, or when bilabial and lingual/lingua-
alveolar functions are completely intact for feeding and other nonspeech motor behaviors. (p.115)

Present Study

To date, there have been no detailed descriptions of clinicians’ views and opinions on controversial treatments, like NSOMT. This study does so by giving clinicians the opportunity to express their thoughts and views on NSOMT and EBP. The primary research question was how do clinicians who use NSOMT view it in relation to EBP? The results should be beneficial for clinicians, researchers, and the governing association in the development and implementation of EBP. Society in general may also benefit from this study, as the results should increase clinicians’ awareness about using controversial therapy techniques.
METHODS

Eleven clinically-based speech-language pathologists participated in the study. They had all been practicing for over five years and have used NSOMT for children with phonological and/or articulation disorders. Table 1 contains demographic information about the clinicians. They were from a variety of work settings (including schools, hospitals, and outpatient clinics). Ten of the clinicians were from northwest Ohio and one was from Florida. The clinicians were recruited primarily from a list of past off-site supervisors and referring speech-language pathologists obtained from the Bowling Green State University Speech and Hearing Clinic (BGSU), by telephone calls, and word of mouth contacts. Each of the clinicians was assigned a code number according to the order in which the interviews were conducted. The participant information sheet and consent form used can be found in Appendix A.

Each clinician was seen for a one-on-one interview. The interviews lasted approximately one hour. They were conducted over a period of 2 to 3 months, in settings that were convenient to the clinicians (e.g., her/his workplace). The interviews consisted primarily of open-ended questions on a variety of topics. The questions focused on the clinicians’ caseloads; their knowledge of intervention strategies for children with phonological and/or articulation disorders; their training on and use of NSOMT; their views on the evidence for and against NSOMT; EBP and their opinions on the roles played by the research community, ASHA, and clients in the selection of treatment approaches. The complete set of questions used for the interviews can be found in Appendix B.

Efforts were made prior to and during the interviews to reduce or eliminate any bias from the researcher. This process began with the author and her research advisor each identifying their own thoughts, experiences, and biases towards NSOMT. The author, Nimisha Muttiah, has been
trained on and has used NSOMT during her undergraduate studies in India. She was surprised to learn during her graduate training that NSOMT was a controversial therapy technique. The advisor, Tim Brackenbury, Ph.D., CCC-SLP, has had six years of direct clinical experience. He teaches undergraduate and graduate courses in phonology and he does not support the use of NSOMT. Attempts were made to eliminate either of these biases from showing during the interviews. As a validity check, the first three interviews ended with a brief feedback session, in which the participants were asked about the clarity of the questions and any bias that they might have felt from the interviewer (the author). These interviewees reported no perceptions of a particular bias for or against NSOMT.
ANALYSIS

A qualitative research design was used to conduct this study. All the interviews were videotaped or audiotaped, and transcribed by the author and two research assistants. Prior to the data analysis, the transcribed interviews were shared with the participating clinicians to ensure that their thoughts and views had been captured accurately. Each clinician was given the opportunity to modify or elaborate on her own responses. Changes made by the interviewees were included in the final transcriptions. These changes primarily elaborated on responses made during the interviews and/or correcting grammatical slips. The basic information that they conveyed remained consistent.

The interview transcriptions were descriptive and lengthy; therefore, summaries were constructed for each clinician. These summaries removed comments and questions by the clinicians that did not relate to the questions and/or topics under discussion. Validity checks were done by the author and another researcher to ensure that accurate information was maintained. Each researcher prepared summaries for all of the participants. These summaries were compared against each other to make sure they overlapped and to correct for any differences.

Each participant’s summary was color coded into five sections according to the questions asked. The five sections constituted questions regarding the participants’ and their history of NSOMT, EBP in relation to NSOMT, parents and NSOMT, clinicians views regarding EBP, and questions regarding the different roles in therapy selection. The colored sections were then used to code the responses for each individual clinician within each section. These codes were written down on small pieces of paper and pooled together by topics or themes. Similar or overlapping codes were grouped together under the same theme.
RESULTS

Analysis of the coded responses revealed the following main themes: benefits and limitations of NSOMT, implementation of NSOMT, evidence for and against NSOMT, using evidence to change clinical practice, parental involvement, and thoughts on EBP. A clear distinction was not made prior to or during the interviews between non-speech oral motor therapy (NSOMT) and oral motor activities directly related to speech production (e.g., phonetic placement cues). Although some of the clinicians spoke about both types of activities most of their responses directly related to NSOMT. Only responses regarding oral motor activities that do not directly relate to speech were analyzed.

Benefits and Limitations of NSOMT

The participants reported a wide range of benefits and limitations they had personally experienced by using NSOMT. The primary benefits that they discussed related to increases in motoric abilities and improvements for specific populations and/or phonemes. Other advantages that were presented were that NSOMT was a tangible technique that parents could easily do at home, and that it was helpful for analyzing and assessing children’s speech abilities.

The benefits that the clinicians reported in relation to increases in motoric abilities focused on the areas of strength, range of motion, and articulatory awareness. Some of the clinicians also said that it helped with making accurate movements (primarily in terms of placement and manner), which resulted in better sequencing abilities. They felt that doing these exercises helped children improve their flexibility and gain better control over their articulators. For example, one clinician stated,

I have found that when I work on oral motor skills with kids that, not only do I notice that their sound and their overall intelligibility increases but that their oral
motor skills, that they do improve, that it’s not something that I have to work on a lifetime….. It’s almost a direct correlation to then their speech improving.

Another clinician noted relationships between improved motor skills and speech when she commented, “They’re talking. Their mouth and their tongue are just not all over the place or they’re not drooling anymore.” Some of the clinicians discussed improvements in strength, range of motion, and awareness as basic level skills that served as a pre-functional skill to speech. A few others, however, did not report direct connections between these motor improvements and speech.

Across the clinicians, NSOMT was purported to be effective for a wide variety of disordered populations. Childhood apraxia of speech, low muscle tone, and oral defensiveness were the most commonly listed groups. Other populations that it was reported to be helpful for were children with phonological disorders, children who had just a few sound errors and children with limited lip and/or tongue movements. The participants stated that NSOMT generally worked well for a majority of children but seemed to be better for younger or preschool aged children. They also said that it should be utilized with children with average or above average intelligence, because of the need to follow specific directions given. Finally, one clinician reported using NSOMT with kids where nothing else or no other techniques seemed to be working. In regards to specific phonemes, NSOMT was reported to be beneficial for /r, θ, ð, l/ and frontal /s/.

Although the clinicians shared many benefits of using NSOMT they also identified limitations to its use. Many of them agreed NSOMT should be used only in certain situations with certain children. For example, one clinician stated, “Some of the literature with occupational therapy feeding and those things, I think there are [sic] some glimmers of
justification in certain situations.” Most said they do not usually use it in isolation or as a primary technique. The participants reported certain patient populations for whom NSOMT does not seem to work well for. These included clients who don’t follow directions, have below average intelligence, or those with just simple articulation errors. One clinician stated that she does not find NSOMT helpful for children with severe childhood apraxia of speech (in contrast to what others reported). The clinicians also identified factors that could have positive or negative effects on the impact of NSOMT. Positive indicators included stimulability, strong motivation and interest and parent involvement. They also reported that NSOMT is not successful unless it is used consistently in therapy.

Implementation of NSOMT

The participants reported on how they implemented NSOMT in their individual clinical settings. They spoke about the kinds of techniques or strategies they used. Some were specific strategies whereas others were more general. Specific strategies such as “Healthy rest position,” tactile strategies and using oral motor cards were described. Many of the clinicians stated that they adapted and individualized the exercises according to their clients. Some said that they used their own self taught strategies, while others reported a combination of NSOMT techniques. Other procedures discussed were activities similar to actual speech production itself (similar to those used in traditional articulation therapy) and training parents to use NSOMT at home.

The clinicians also discussed changes they have made when using NSOMT. Although the clinicians reported many advantages in using NSOMT, most of them reported not using it as much as they once had. One clinician said, “I think it was something new at the time, a new technique if you would, and I wanted to try it as much as I could and I don’t think it was as effective as I wanted it to be.” A reason given for changing her use of NSOMT by another
clinician was, “I just started trying it because some of the kids, it seemed like they were getting a little bored with just oral motor…” Others had expanded and modified their use of NSOMT techniques. These clinicians felt they understood it better and were more comfortable with using it now than they were before. Finally, a few said they use it more with food than by itself.

Evidence for and against NSOMT

The participants discussed the numerous kinds of evidence they have come across both supporting and refuting NSOMT. They mainly talked about their own personal reasons and those that they have heard from other clinicians. Other sources of evidence that they discussed included articles, books, and workshops they had attended. Two clinicians mentioned specific reasons for using NSOMT that differed from the benefits described earlier. One stated that a hospital that she had worked for encouraged its use. The other said that everyone uses NSOMT in some form or the other, so she does too. In contrast to these forms of evidence, a few clinicians reported that they had never read any research or exchanged ideas with colleagues regarding NSOMT.

Many of the clinicians shared that they have experienced the benefits of using NSOMT first hand and that it helps and works for their clients. They also shared reasons they had heard from their colleagues for using NSOMT. Many of them had heard reasons similar to their own; such as increases in motoric abilities, helping with manner and placement, giving the articulators good overall stability and improving intelligibility.

Although some of the participants reported reading articles that supported NSOMT, none of them could recall the names or the authors of these articles. Many of the clinicians had reportedly been exposed to books, videos, and information by NSOMT promoters such as
Pamela Marshella, Char Boshart, Sarah Rosenfeld-Johnson and Pamela Garnunn. Most of the participants had attended conferences and workshops by these and other advocates of NSOMT.

A majority of the clinicians who had heard of information against NSOMT had read an article published in the Advance magazine about Gregory Lof and his views on the subject (Banotai, 2007). Some had heard that NSOMT was not effective and that there was no progress seen when using it, although no specific source was mentioned. A few had heard that NSOMT has no connection to speech and that it did not increase strength or range of motion. One clinician mentioned that Nancy Kaufman, a clinical speech-language pathologist who frequently presents to other clinicians, did not emphasize oral motor kinds of activities. Others had heard from their colleagues that do not use NSOMT, that they were uncomfortable or afraid of using it. Most of the clinicians were aware that there was not much research support on NSOMT and that more research was needed.

There were a few clinicians who had not read or heard anything against NSOMT. One clinician said, “I know it’s controversial. After you talked about it, I looked it up. I didn’t realize it was as controversial as it is.” Another clinician felt NSOMT was confusing as the research on it was conflicting.

*Using evidence to change clinical practice*

The clinicians were split as to whether or not research evidence could cause them to change their minds regarding NSOMT. Most of them stated that studies showing negative outcomes of NSOMT would cause them to rethink their use of NSOMT. As one stated, “I think in order to be a good clinician and to use best practice, well we have to change as we learn more information.” The kinds of evidence clinicians would consider for them to change their minds regarding NSOMT varied greatly. Many of them said they would not use NSOMT if a study
showed that its outcome was doing something to hurt a child. Another participant said that she would stop using NSOMT if a study was done that showed a child’s progress was caused by some other factor outside of NSOMT. Some of the participants said it would take a long term study that looked at multiple factors taking multiple sounds into consideration. Others reported that it would take several studies to convince them to change. One clinician reported that it would take a study where the only difference between the experimental and the control group was that one group was treated with NSOMT and the other was not. Another clinician said she would not use NSOMT if ASHA took a stand against it. Finally, one clinician was uncertain about what kinds of evidence it would take to change her mind, but did state she was open to evidence.

A few clinicians said that they would continue to use NSOMT regardless of the evidence, “if I don’t feel like I’m hurting the child and I feel that for me through what I’ve seen actually helps then, irregardless of any evidence, I will probably go ahead and continue to do things the way that I am doing them.” Some other reasons reported by clinicians to continue to use NSOMT were that you can find research to support or dispute anything you want. A clinician stated, “…You can find articles to support about anything you want to believe. You find what you believe and then you can support [it].”

Parental involvement

The views of clients and/or their caregivers is one of the key factors taken into consideration in the 3-pronged EBP approach. The participants in this study discussed their personal thoughts about how they felt regarding parental involvement in therapy, both in general and in relation to NSOMT. The majority of the clinicians felt that parents should be involved in
therapy, and they shared the advantages of doing this. There were a few clinicians who were more hesitant about involving parents in therapy.

Most of the clinicians felt that parents are significant and that they should play an important role in intervention. Clinicians also shared the view that clients and parents sometimes know best what may work for them. Some reported there should be mutual trust and respect between the clinician and parents. “We need to give parents information so that they are then able to make a better decision about what they want for their child. So I think that you should listen to parents and certainly be open to their suggestions.” In regards to sharing evidence or information on NSOMT with parents, there were two differing opinions. Some of the clinicians felt it was an advantage to share information with parents, whereas others felt that clinicians needed to be cautious when sharing information with parents.

The specific information about NSOMT that clinicians tended to discuss with parents included techniques that they think would work, their benefits, and activities that would not be useful. Many clinicians also reported sharing NSOMT activities and practice words with parents. They also said they shared information regarding the client’s progress. The majority of them, however, did not share research-based evidence on NSOMT with parents. Two of the clinicians, however, had shared that there was no evidence supporting NSOMT with parents, and that they were unsure it would work. For both clinicians, the parents were open to trying NSOMT as they respected the clinicians and their decisions.

There were some clinicians who were unsure or cautious regarding parental involvement in therapy. One participant who did not prefer parental involvement expressed that this was because some parents had unrealistic expectations. Another stated she does not involve parents because, “the population that I work with, their parents are not as involved as we would like
them to be,…and I don’t think they are educated enough to make that decision.” The primary reason that was given for not sharing the evidence on NSOMT with parents was that it would be too overwhelming for them. A few of the clinicians felt they would share information depending on the parent.

The clinicians felt it was important to get parents input regarding treatment, so that they had the choice to refuse certain treatments if they wanted to do so. Many of the clinicians said they had received positive comments from parents regarding NSOMT. The comments were in terms of specific changes parents had seen in their children as well as how they felt regarding NSOMT in general. Parents had reported seeing changes in their children’s oral movements and that they felt a difference when NSOMT was implemented. They felt like their children were making progress and that it was successful. Parents had also said they understood NSOMT better. The clinicians suspected that this was because it is a tangible technique that is well structured in a step-by-step manner. The clinicians also felt that parents were also more involved and interested in NSOMT than other therapies.

EBP and the influence of research

The clinicians spoke about EBP in many ways, including defining it and discussing how they attempted to incorporate EBP in their individual clinical settings. Only one clinician gave a definition of EBP that included all 3 aspects; a clinician’s experiences, research evidence and the client’s views. The definitions that the others gave tended to focus on only one of these aspects. For example, some clinicians felt like EBP referred to their own clinical experiences and using techniques they felt worked for them. Others said EBP was research, books, online information and information from ASHA approved workshops they had attended. A few clinicians said they
felt collaborating and talking to their colleagues was a part of it. Some mentioned taking their client’s or the client’s parent’s views and thoughts into consideration was EBP.

Many of the clinicians said they implemented EBP into their clinical practices by reading research and trying to use it. Some mentioned if they felt like a certain technique was not working, they would then try a different technique; they considered this as using EBP. Others said using EBP was intuitive to them, and they did not specify how they used it. One clinician stated she would use researched techniques/EBP provided these techniques worked for her. Another stated that she used EBP to educate her staff/parents.

Despite these different views on EBP and how it is used, all of the clinicians felt that EBP was advantageous and that it should be implemented in clinical settings. Many of the clinicians felt that using EBP meant using treatment that was based or supported by research. They stated they were using techniques that were proven to be ethical and effective. Using such procedures made treatment more credible or accountable. The participants also stated that EBP was not just a part of best practice but also part of being a good clinician. “As SLPs we do all have a responsibility to use evidence-based practice. I guess it means for some of us taking more time to find out exactly what those things are.” EBP for many of the clinicians seemed to be the basis for intervention and it seemed like a good place to begin therapy. Some mentioned that it helped them diagnostically and also to think better. EBP was also being used to evaluate a client’s progress but no specific mention was made as to how this was being implemented to measure progress.

Despite these advantages, many clinicians mentioned there were difficulties to using EBP clinically (although two clinicians felt like there were no difficulties or disadvantages to using EBP). These clinicians stated that although they want to use EBP, looking for articles was too
cumbersome and interfered with their heavy caseloads and limited time. Some also stated that EBP itself was difficult to use and this could be because of the difficulties in accessing evidence-based information. A few of the clinicians were not familiar with how to use EBP and some even mentioned that they were uncomfortable with the name “EBP.” As one said,

Articles and research and evidence based material can be very intimidating. So, I think sometimes for me I probably do not read some of the articles, and/or read them in depth when I should because it makes me feel very intimidated.

Some mentioned that EBP is not “real life” and that it may stifle creativity. The clinicians stated that they would use EBP only if it gave results. If clear direction was not given from EBP, they reported that they would go back to what they have been doing all along. They also stated that sometimes using EBP alone is not enough. As reported earlier, some of the clinicians felt that research can be found to support anything you want and/or that it can be conflicting.

The clinicians were unanimous in saying that they were receptive to research but that research should only be one influence on treatment decisions. They were against research dictating or prescribing treatment. They felt that researchers input should guide and support clinicians. The majority of the participants felt that researchers sharing their knowledge and research information would be beneficial as they know what intervention techniques are working well and which are not.

Other participating clinicians were less accepting of researchers and their work. A few felt that researchers should have limited influence on clinicians’ treatment because research settings are so far removed from real world settings. Also one clinician expressed her thoughts by saying,
I think as a clinician that’s why we have gone to school, and that is why we have been practicing for several years, [sic] is that we are professionals and we are able to decide based upon our past experiences and educational level what we feel is best for the student and/or for the child.

A great majority of the clinicians felt that clinicians and researchers should be working together hand in hand as a team. One clinician’s thoughts’ regarding this was, “I think there has to be a dialogue between researcher and clinician to talk about things…” Another stated, “…that we should all be intertwined because … they are not out in the field working with the people, we can provide information as well.” Many of the clinicians were open to more collaboration between researchers and clinicians. They also reported that they would be more receptive to the evidence regarding NSOMT if studies were conducted by researchers who were clinicians or who were more clinically oriented.
DISCUSSION

This study was done to examine a situation where there was conflict between clinical expertise and research evidence. The primary question addressed was how do clinicians who use NSOMT view it in relation to EBP? The clinicians presented a wide variety of viewpoints on NSOMT, how they use it, and how they incorporate EBP into their intervention. For the most part, the clinicians did not directly disagree with each other. Rather, they tended to state similar points of view that included different explanations or support. As a result, they demonstrated insights into a variety of factors that influence a clinician’s decisions to use NSOMT. These include how one defines EBP and research, who conducts the research, the types of research that are accessed, one’s willingness to make decisions based on research results and how an approach is applied.

Although most of the clinicians were aware that NSOMT was controversial, none of them directly expressed concerns about it conflicting with the principles of EBP. This may have been due to their personal definitions and applications of EBP. The clinicians were all familiar, supportive, and knowledgeable about EBP, but only one of them appeared to correctly consider all three aspects of EBP in its application. Instead, they tended to focus on their own clinical experiences (and those of their colleagues) over the research evidence or client/family values.

When they did refer to “research” evidence, most of the clinicians cited workshops that they had attended. They described the promotional materials and client videotapes shown to be useful evidence of NSOMT’s success. While materials and videotapes may be used to demonstrate intervention approaches, they alone cannot justify the use of an approach. A number of other factors must also be known, such as how many of the clients the approach was and was
not useful for, what controls were taken to assure that NSOMT caused the observed change and how the results compare with those of other approaches.

Neither the clinicians nor our own literature review found much direct evidence either for or against the use of NSOMT for children with phonological and/or articulation disorders. In other words, no one seems to be doing the work needed to validate these techniques. This brings about questions of whose responsibility it is to validate/substantiate therapy techniques. Is it up to the research community, who is the most experienced in experimental studies? Should it be dependent upon the advocates of NSOMT, as they are the ones who are promoting and profiting from it? Or is it up to the clinicians who are using the techniques in practice? At the present time, none of these groups appears to be engaging in rigorous, scientific analysis of NSOMT. Perhaps, then, it should not be too surprising that this method continues to be controversial.

The clinicians’ statements about how they approach research evidence and the sources that they use also appear to have an impact on their use of NSOMT. Research articles were described as confusing and/or intimidating. When the clinicians did report evidence for or against NSOMT, they tended to cite secondary sources. The articles in these journals are typically not peer reviewed and may not have been written by the primary researchers themselves. They may, therefore, present inaccurate and/or biased results.

The majority of the clinicians reported that they were aware of the evidence against NSOMT, but they still chose to implement it in therapy. Many of them stressed that the research needed to convince them to stop using NSOMT would have to be very strong. Many specified different kinds of research studies that could be done and varying degrees to which it could convince them. Although there were suggestions made for research studies, many were not
convinced that these could actually be done. It is therefore unclear if any type of research
evidence could change these clinicians’ views on NSOMT.

The clinicians had a wide variety of clients and disorders with whom they used NSOMT. In most cases they agreed on who this approach was helpful for, but sometimes the clinicians contradicted each other (as was the case for childhood apraxia of speech). The variety of children that the clinicians have used NSOMT for suggests ambiguity in the application of this approach. In some case, for example, the disorders listed did not appear to match with the proposed theory behind NSOMT (i.e., increasing muscle strength and/or range of motion). For example, some clinicians reported using it with kids who have phonological problems. These children do not have difficulty in the motoric production of sounds. Rather, they have difficulty with the mental rules related to sequencing and producing sounds. If NSOMT is effective for these children, then, one must either rethink how the change was caused and/or how disorders like these are defined.
CONCLUSION

This study gave clinicians the opportunity to express their thoughts and views regarding NSOMT and EBP and to justify their use of NSOMT with many of their clients although research does not support it. The participants shared valuable information during the interviews and had many reasons and justifications as to why they felt that NSOMT would be appropriate for the clients they treat. However, many of these reasons run counter to the research already done on NSOMT. EBP is becoming an increasingly important part of our field. That said, very few of the clinicians appeared to have an accurate representation of it. The clinicians identified a disparity that seemed to exist between researchers and clinicians, yet they also demonstrated a lack of acceptance of research evidence.

The results of this study bring up a number of concerns and questions. Because of the limited number of participants and the restricted geographic area that they were from, additional investigation needs to be conducted before generalizing these results. There appear to be, however, a number of issues that need to be further explored. For example, further research should be done to look at why clinicians do not have a more accurate view regarding EBP and treatment research. It would also be of interest to develop methods for improving the dissemination of research results and increasing communication between clinicians and researchers. Work of this nature may reduce the wide disparity that exists between researchers and clinicians. Finally, because the clinicians described a variety of methods, future work on NSOMT needs to clearly define the techniques being discussed/investigated under this term. Exploring these ideas and others like them, could help to further a more accurate understanding of NSOMT and EBP.
REFERENCES


Hello. My name is Nimisha Muttiah. I am a graduate student at Bowling Green State University in the department of Communication Disorders. I am conducting a study about how clinician’s use controversial therapy approaches. This investigation focuses on the use of Oral Motor Therapy techniques for children with phonological and/or articulation disorders. My faculty advisor, Dr. Tim Brackenbury, and I would like to invite you to participate in this study. The study is described below along with a consent form. If you are interested in participating, please call or email me (419-372-2516, nimishm@bgsu.edu) to arrange for an interview.

Introduction/Purpose. Evidence-Based Practice (EBP) involves the integration of the best research evidence available with clinical expertise and client values. The American Speech-Language Association has been promoting the use of EBP for over a decade. Some clinicians have incorporated EBP into their practice, while others have not. We are interested in exploring situations where there are conflicts between the research evidence, clinical expertise, and client values. To do so, we are focusing on the use of Oral Motor Therapy (OMT) for children with phonological and/or articulation disorders. We are interested in interviewing clinical SLPs who have been practicing for over 5 years and who are using this approach for this population. The purpose of this study is to obtain clinicians’ viewpoints on this particular therapy technique, its use, and how it fits within EBP.

Procedures. One-on-one interviews will be conducted in person. Each interview will last approximately one hour. During the interview, we will discuss topics such as
- your caseload
- intervention approaches for children with phonological and/or articulation disorders
- your training and use of OMT
- your views on the evidence for and against OMT
- the roles that you think the research community, ASHA, and clients should have in the selection of treatment approaches.

Each interview will be videotaped and transcribed. We plan to interview 10 to 15 clinicians to examine both common and differing views.

Later this summer, we will be conducting similar interviews with researchers in the area of child speech disorders. Along with asking them similar questions, we will be sharing your views (anomalously) and asking for their comments. Then, in the early fall, we would like to conduct a second interview with you in person, to share their responses and get your feedback on them.
Risks/Benefits. There are no known risks to you for participating in this study. You may withdraw from the study at any time. There will be no direct benefits for participating in this study. It is hoped, however, that the information that is gained from this study, and others like it, will increase our knowledge regarding the use of controversial therapies and the implementation of EBP.

Confidentiality. All research-related records and information would be kept secret. All written records and videotapes will be stored in a locked office. This office is accessible only to my advisors and myself. Your identity will not be revealed at any time, including publications or presentations of this study. All videotapes will be erased or destroyed within 5 years of this study’s publication.

Costs/Payments. There will be no cost to you for participating in this study. You will not receive any payment or compensation for participating in this study.

Questions. Please review this information carefully and contact me if you have any questions about this study (419-372-2516, nimishm@bgsu.edu). You may contact me at any time, before or after signing the consent form. You may also contact my faculty advisor, Tim Brackenbury (419-372-7188, tbracke@bgnet.bgsu.edu). If you have questions regarding the conduct of this study or about your rights as a research participant, you may also contact the chair of Bowling Green State University’s Human Subjects Review Board at (419) 372-7716 (hsrb@bgnet.bgsu.edu).

If you would like to participate, please fill out the following consent forms and phone or email me to set up your interview.

Thank you for your consideration.

Nimisha Muttilah
Department of Communication Disorders
Bowling Green State University
Controversial Therapy and Evidence-Based Practice: The Clinician’s Perspective

Consent Form

I give my permission to participate in this research study.

I have been given information about what will be required of myself. I have been told about any inconveniences, discomfort, or risks I may experience by participating in this study. I have also been notified of my right to withdraw from this study at any time. All of my questions have been answered at this time.

By signing below, I indicate that I am a licensed speech-language pathologist who a) has been practicing for five years or more and b) uses Oral Motor Therapy for children with phonological and/or articulation disorders.

______________________________  ______________________________
Print Name                     Signature

______________________________  _____________________________
Street Address                 Work Phone Number

______________________________  _____________________________
City, State, & Zip Code         Today’s Date

A copy of this signed form will be returned to you.
APPENDIX B. INTERVIEW QUESTIONS

1. Current caseload (5 minutes)

   - What kind of kids with speech problems do you see? How much of your caseload
     is focused on speech disorders?
   - What intervention approaches/strategies do you use for children with
     phonological and/or articulation disorders?
   - How do you go about deciding on a therapy for a child with speech problems?

2. OMT History (15 minutes)

   - Tell me about your experiences with OMT.
   - How long have you been using OMT?
   - How did you learn about (and to use) OMT?
   - What are your views and thoughts regarding OMT?
   - Have you made any change in the way in which you use OMT from the time you
     learned it up until now?
   - What benefits have you seen by using OMT?
   - Any other reasons for using OMT?
   - Are there particular kinds of kids that OMT works or doesn’t work for?

3. EBP for OMT (15 minutes)

   - What are reasons that you have heard from others for using OMT?
   - What reasons have you heard against using OMT?
   - Have you come across any research evidence in support of or against OMT? Tell
     me about it.
- Could evidence from research studies cause you to change your views on OMT?
  If so, what kinds of evidence might it take? If not, why not?
- Have you talked with parents about the evidence for and against OMT?
- What comments have you heard from parents of children who you are using OMT with? Are these different than parent’s comments to other treatments?

4. The roles in therapy selection (15 minutes)
- How do you feel about EBP and using it in your clinical work?
- How do you define EBP?
- What are the advantages and disadvantages you foresee in using EBP as a clinician?
- How you use EBP in your work?
- Do you think that the research community should have an influence in treatment selection? If so, what? If not, why not?
- What about ASHA?
- What about the clients themselves (or their parents) and their views?

5. Other information (10 minutes)
- Is there anything else regarding EBP or OMT you would like us to know?
<table>
<thead>
<tr>
<th>Code Number</th>
<th>Years of Experience</th>
<th>Work Location</th>
<th>Work Setting</th>
<th>Years using OMT</th>
<th>% of caseload with speech problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Over 30 yrs</td>
<td>Northwest Ohio</td>
<td>School</td>
<td>30 yrs</td>
<td>25-33%</td>
</tr>
<tr>
<td>2</td>
<td>28 yrs</td>
<td>Northwest Ohio</td>
<td>School</td>
<td>5-10 yrs.</td>
<td>Few</td>
</tr>
<tr>
<td>3</td>
<td>9 yrs</td>
<td>Northwest Ohio</td>
<td>Hospital</td>
<td>9 yrs</td>
<td>50%</td>
</tr>
<tr>
<td>4</td>
<td>13 yrs</td>
<td>Northwest Ohio</td>
<td>School, Montessori</td>
<td>13 yrs</td>
<td>85%</td>
</tr>
<tr>
<td>5</td>
<td>11 yrs</td>
<td>Florida</td>
<td>School and home visits</td>
<td>11 yrs</td>
<td>60-70%</td>
</tr>
<tr>
<td>6</td>
<td>9 yrs</td>
<td>Northwest Ohio</td>
<td>School- Preschool</td>
<td>9 yrs</td>
<td>Did not state</td>
</tr>
<tr>
<td>7</td>
<td>12 yrs</td>
<td>Northwest Ohio</td>
<td>School, Elementary</td>
<td>&gt; 25 yrs</td>
<td>50%</td>
</tr>
<tr>
<td>8</td>
<td>20 yrs</td>
<td>Northwest Ohio</td>
<td>Private clinic and private school</td>
<td>19 yrs</td>
<td>30%</td>
</tr>
<tr>
<td>9</td>
<td>15-20 yrs</td>
<td>Northwest Ohio</td>
<td>School, Elementary</td>
<td>12 yrs</td>
<td>25%</td>
</tr>
<tr>
<td>10</td>
<td>20 yrs</td>
<td>Northwest Ohio</td>
<td>School, Elementary</td>
<td>18 yrs</td>
<td>50%</td>
</tr>
<tr>
<td>11</td>
<td>7 yrs</td>
<td>Northwest Ohio</td>
<td>Hospital</td>
<td>5 yrs</td>
<td>40%</td>
</tr>
<tr>
<td>Code No.</td>
<td>Intervention strategies for phonological/ articulation problems</td>
<td>Therapy approaches decided based upon</td>
<td>Experiences with OM</td>
<td>How they learned about OMT</td>
<td></td>
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</tr>
<tr>
<td>1</td>
<td>Depends on the child.</td>
<td>Stimulability &amp; Case history</td>
<td>Initially just manner &amp; production, pushed OM in undergrad &amp; grad, worked for a hospital that was moving towards OMT (straws &amp; whistles)</td>
<td>Had training on OM examinations &amp; oral motor functions. Attended workshops, (Marshella, Morris) training, &amp; conferences.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Phono-OMT; for artic-traditional with OMT.</td>
<td>Depending on errors &amp; error patterns, sounds, child’s needs.</td>
<td>Tries to incorporate in preschool curriculum, uses food &amp; toys w/preschoolers, has used whistles, noisemakers &amp; mirror. Uses OM depending on child’s needs.</td>
<td>Reading, workshops on OMT, workshops on whistles &amp; noisemakers.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Traditional artic, Hodson’s approach, parts of other approaches, OMT.</td>
<td>Severity of disorder, response to therapy, OM movements, coordination, strength, &amp; tone.</td>
<td>Good experience with OMT, uses food a lot, kids make progress, used for strength &amp; feedback regarding articulators.</td>
<td>Self learned, books, websites &amp; other SLP’s.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Individual to the child, traditional, auditory bombardment, verbal, visual, tactile &amp; sensory cues, OMT, tries to eliminate processes if it is phonological.</td>
<td>Depends on individual.</td>
<td>Initially used in nursing homes &amp; w/older clients. Uses with kids to increase awareness of tongue &amp; when needed.</td>
<td>Nursing homes &amp; books.</td>
<td></td>
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<tr>
<td>Code No.</td>
<td>Intervention strategies for phonological/ articulation problems</td>
<td>Therapy approaches decided based upon</td>
<td>Experiences with OM</td>
<td>How they learned about OMT</td>
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<tr>
<td>5</td>
<td>Minimal pairs, maximal opposition, auditory discrimination, traditional articulation, OMT, techniques by Borshart &amp; Kauffman.</td>
<td>Depending on Evaluation</td>
<td>Great technique, if OM underlying cause works on OM, interested in kids with apraxia &amp; phonological disorders.</td>
<td>During graduate school, attended trainings &amp; workshops on OMT (Boshart, Secor, Marshella) &amp; Apraxia/phonological disorders, and by talking to other therapists.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Imitation, OMT, OM cards, mirror, using food.</td>
<td>Motivation, cognition, parental involvement, fun for child, depending on individual.</td>
<td>Exposed during externship &amp; other sites. Has used with adults &amp; kids. Used for preschoolers with /r/. Feels OM is individual, sees child &amp; decides what technique. Uses trial &amp; error.</td>
<td>During externship at school, hospital &amp; nursing home, had read information on OMT (Marshella), attended conference (Gar-nunn).</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Auditory discrimination, auditory bombardment, mirror, traditional, minimal pairs.</td>
<td>Intuition.</td>
<td>Limited experiences with using &amp; training. Uses self taught OM strategies, part of her student training.</td>
<td>Part of student training, workshop but was more related to voice.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Phono-treats the processes; artic-traditional. Also uses modeling, visual, minimal pairs, tactile, finger cues.</td>
<td>Depending on diagnosis, response to therapy, stimulability, and experience.</td>
<td>Initially skeptical of using, started using it with kids where nothing else worked. Had success. Maybe because OM is at a basic level. Used OM imitation &amp; massage w/kids with apraxia.</td>
<td>Conferences (Boshart), workbooks, books, working with OT’s &amp; SLP’s who use OMT, minimal exposure in graduate school.</td>
<td></td>
</tr>
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<td>Code No.</td>
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<td>9</td>
<td>Usually starts with Van Riper’s approach, Auditory discrimination, mirror, traditional and minimal pairs.</td>
<td>Trial &amp; error, stimulability &amp; depending on unintelligibility.</td>
<td>Trial &amp; Error. Starts with sounds child is able to produce &amp; builds upon this.</td>
<td>Introduced during graduate internship, workshops (O-SPEAC, Feeding &amp; Swallowing).</td>
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<tr>
<td>10</td>
<td>Depends on problem, Hodson’s approach, Traditional, auditory discrim &amp; bombardment.</td>
<td>Depending on child, stimulability, individual to child, response to therapy.</td>
<td>Initially used with all kids but was unsuccessful. Needed to use only when required. Has used straws &amp; horns with clients.</td>
<td>None at college level, attended workshops (Marshella, Rosenfeld-Johnson, Boshart).</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Uses mirror, imitation, cycles, approach by Kauffman, OMT and traditional.</td>
<td>Depends on evaluation, trial therapy &amp; individual.</td>
<td>Uses as tool/modality to help w/positioning, range of motion &amp; pairing with speech sounds.</td>
<td>Clinical experiences as a student, clinical supervisor, seminars (Beckman, Alexander) &amp; books.</td>
<td></td>
</tr>
</tbody>
</table>