Comparison of speech-language therapy with and without musical elements for adults with aphasia and apraxia of speech

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Introduction

Many adults who experience aphasia after a cerebrovascular accident also experience apraxia of speech (AOS). When aphasia and AOS are combined, they can impact an adult’s ability to produce speech fluently and correctly.

Prior research has noted success with Melodic Intonation Therapy (MIT) to address the fluency and accuracy of spontaneous speech. MIT combines various elements of music, such as rhythm, melody, and pitch, to provide therapeutic mechanisms which have positively impacted a patient’s spontaneous speech production in both fluency and accuracy (Conklyn, Novak, Boissey, Bethoux, & Chemali, 2012; Helm-Estabrooks & Albert, 2004). In addition to MIT, speech-language pathologists (SLPs) use individual elements of MIT in speech therapy. For example, rhythm has been successful in improving the speech fluency and accuracy of persons with aphasia (Brendel & Ziegler, 2008).

Some SLPs implement speech therapy without musical elements such as Combined Aphasia and Apraxia of Speech Treatment (CAAST) and Semantic Feature Analysis (Helm). The speech fluency and accuracy of persons with aphasia (Brendel & Ziegler, 2008).

Joni, a middle-aged woman with Broca’s aphasia and AOS, twice for 60 minute sessions. Joni has had success with both MIT and CAAST therapy in the past.

Joni enjoys singing and performs with a local group. Her articulation during singing is significantly more accurate than fluent and her conversational speech.

I want to know whether traditional speech-language therapy with elements of music will lead to improved speech accuracy and fluency compared to traditional speech-language therapy for Joni.

Case Scenario

• I am a graduate student at University of Nevada, Reno, with experience as a music teacher. I see Joni, a middle-aged woman with Broca’s aphasia and AOS, twice for 60 minute sessions. Joni has had success with both MIT and CAAST therapy in the past.

• Joni enjoys singing and performs with a local group. Her articulation during singing is significantly more accurate than fluent and her conversational speech.

• I want to know whether traditional speech-language therapy with elements of music will lead to improved speech accuracy and fluency compared to traditional speech-language therapy for Joni.

Method

Search terms: Melodic Intonation Therapy, aphasia, apraxia of speech, and rhythm

Appraisal: Studies were analyzed using a 15-point CATE form (Dollaghan, 2007). Ratings were compelling (11-15 points), suggestive (7-11 points), equivocal (0-6 points).

Inter-rater reliability: Inter-rater reliability of at least 85%, was achieved for each article.

Databases: UNR Knowledge Center: One Search, ASHA Wire, Web of Science, ERIC, and PubMed

References


Discussion

• External evidence (E1): Research indicated an increase in spontaneous speech production accuracy and fluency using musical elements in therapy. More research is needed to establish a more thorough comparison between therapy with and without musical elements.

• Internal evidence to clinical practice (E2): I would feel comfortable implementing musical elements into therapy, specifically rhythm and pitch. My supervisor is supportive of me using musical elements in therapy with adults with aphasia and apraxia of speech.

• Evidence internal to my client (E3): Joni enjoys singing and expressed a willingness to try using musical elements in therapy. Using these elements allows my client to utilize novel therapeutic techniques that channel her passion for music.

• EBP Decision: Based on the external evidence, internal evidence to clinical practice, and evidence internal to my client, we decided to implement the musical elements of rhythm and pitch to improve fluency and accuracy in conversational speech. We decided to implement elements of music, rather than MIT, to also improve fluency and accuracy in conversational speech. We decided to implement elements of music, rather than MIT, to also improve fluency and accuracy in conversational speech. We decided to implement elements of music, rather than MIT, to also improve fluency and accuracy in conversational speech. We decided to implement elements of music, rather than MIT, to also improve fluency and accuracy in conversational speech.