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Non-Pharmaceutical Treatments of Unilateral Bell's Palsy

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ABSTRACT

There is significant research in the areas of neural muscular re-education and their efficacy in treating Bell's palsy. The symptoms of secretion management, changes in speech production and oral preparatory swallowing concerns lend this to be an area of speech-language pathologist's engagement. There are efficacious non-pharmaceutical techniques used by rehabilitation professionals in treating unilateral Bell's palsy. Currently, there is a gap in the practice of speech-language pathologists treating this diagnosis. This project aims to highlight the areas of practice that fall within the speech-language pathologist's scope of practice but are currently being executed by other healthcare professionals.

INTRODUCTION

Bell's palsy is defined as a unilateral facial nerve weakness/paralysis of unknown cause. This condition can lead to a complete inability of voluntarily movement of facial muscles on the affected side of the face. (Baugh et al., 2013).

The symptoms that accompany this condition are temporary oral incompetence, which may lead to drooling, loss of the sense of taste on two thirds of the tongue, the inability to close the eyelid, which could lead to more damage in the eye and tearing, hypersensitivity to sound in the affected ear (hyperacusis), and loss of feeling in the face resulting in disordered movement of the muscles that control facial expressions, like squinting, blinking, and smiling. Bell's palsy is diagnosed by looking at the symptoms present at the time as there are no specific tests used for diagnosis.

This literature review aims to highlight the areas of practice that fall within the speech-language pathologist's (SLP) scope of practice but are currently being executed by other professionals, such as occupational therapists, physical therapists and physicians. Many of the symptoms for Bell's palsy are similar to that of other conditions that SLPs currently treat.

STRATEGY

- The database that was utilized was Google Scholar, which resulted in over 1,200 articles. These were then narrowed down by profession and treatment type.
- After including different filters, five peer-reviewed studies were selected for detailed analysis regarding non-pharmaceutical treatments of Bell's palsy.
- An interview with two speech-language pathologists was conducted—Marissa Barrera and Andrew Christler—was conducted on August 31, 2023.

FINDINGS

Findings fall into three categories: electrotherapy, biofeedback, and massage therapy. SLPs are trained to use these different treatment methods to treat other disorders but are not consistently using these to treat Bell's palsy. However, there are other disciplines that are using these treatment methods to treat Bell's palsy.

Finding 1: Electrotherapy

When treating Bell's palsy, physical therapists use electrodes for electrotherapy to stimulate the muscles in the face. The benefits of electrotherapy include pain reduction, improved circulation, reduction in inflammation, increased range of movement and improvement in overall recovery (D'Souza et al., 2021).

FINDINGS, Cont.

Finding 2: Biofeedback

Occupational therapists use electromyography (EMG) biofeedback to treat Bells palsy. Biofeedback is a technique used to help a patient to better understand and recognize their own muscle tension in real-time. EMG Biofeedback uses electrodes which are placed on a patient's muscles, which then generate a feedback signal in either a sound or vision, which is in response to muscle activation. The use of biofeedback helps with motor re-education and control of synkinesis, which refers to the involuntary and undesirable facial movements (Mirzakhani et al., 2017).

Finding 3: Facial Massage

Facial exercise therapy (facial neuromuscular retraining) is a sequence of exercises performed on the face of a patient with Bell's palsy. A physical therapist will teach a patient how to accurately perform these facial exercises on themselves so that they can practice at home and follow a rigorous home regimen. Facial exercises can include massaging the lower facial muscles, forehead and cheeks. Facial exercise therapy has been demonstrated to be very successful when practiced during the early onset of Bell's palsy (Khan et al., 2022).

DISCUSSION & CONCLUSIONS

Implications for Clinical Practice and Future Research

Speech-language pathologists should be included in the rehabilitation of Bell's palsy. Bell's palsy shares a list of symptoms with other conditions (e.g., dysphagia & acute stroke) that SLPs are currently practicing in, such as secretion management, changes in speech production, and oral preparatory swallowing concerns. However, SLPs are currently ignoring a patient population that demonstrates these deficits. Future research should focus on the role of SLPs working with the Bell's palsy population.

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REFERENCES

- C., S. Y. I. (2002, March). *Peripheral facial palsy and dysfunction of the oropharynx*. Journal of neurology, neurosurgery, and psychiatry.
- Khan, A. J., Szczepura, A., Palmer, S., Bark, C., Neville, C., Thomson, D., Martin, H., & Nduka, C. (2022, July 5). *Physical therapy for facial nerve paralysis (Bell's palsy): An updated and extended systematic review of the evidence for facial exercise therapy*. Clinical rehabilitation.
- D'Souza, A. F., & Rebellato, S. R. (2021). *Comparing the effectiveness of mime therapy and neuromuscular re-education in improving facial symmetry and function in acute Bell's palsy: a pilot randomised clinical trial*. International Journal of Therapy & Rehabilitation, 28(3), 1-9.
- da Silva, M. A. A., & Mangilli, L. D. D. (2021, September 29). *Transcutaneous electrical nerve stimulation in speech therapy rehabilitation of voice and swallowing function in adults—a systematic review*. Clinical and experimental dental research.
- Mirzakhani, N., Oshnari, L. A., Baghban, A. A., Eliyspoor, D., Javantash, A., Kamalifar, M., & Parsamanesh, T. (2017, July). *The comparison between exercise therapy and biofeedback therapy in facial function and quality of life of Bell's Palsy*. Journal of Clinical Physiotherapy Research.
- Toffola, E. D., Tinelli, C., Lozza, A., Bejor, M., Pavese, C., Agosti, I. D., & Petrucci, L. (2021, December 21). *Choosing the best rehabilitation treatment for Bell's Palsy* | Request ...