A Systematic Review of Tele-intervention in the Administration of Stuttering Therapy

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Background

• The use of tele-intervention is increasing in the field of speech - language pathology. Tele-intervention is the process of administering speech language services through video conferencing and/or by auditory delivery through the use of a telephone. The use of technology is an easy way to connect to individuals, especially adolescents who spend 87% of their time using technology.
• An important outcome for individuals who stutter is determining conclusive evidence about the effectiveness of tele-intervention.
• Typically intervention is administered through a traditional approach which includes a face-to-face application of intervention.
• Comparatively, tele-intervention is an alternative technique to the traditional approach.
• The purpose of this project is to present a systematic review about tele-intervention when administered for stuttering intervention. The specific research question is:
  * How effective is the use of tele-intervention as a technique in the administration of stuttering therapy? What practices promote greater effectiveness in each study?

Literature Search

• The following databases/search techniques were used to retrieve articles
  • EBSCO Host
  • PsychInfo
  • CINAHL
  • Google Scholar
  • ASHA
• The search terms/key words used were:
  • Tele-intervention
  • Tele-health
  • Tele-practice
  • Stuttering
  • Intervention
  • Effectiveness
• Additional search criteria included:
  • Articles in English
  • Published in 1999 or later
  • Peer Reviewed Articles
• Articles were excluded based on the following criteria:
  • Tele-health interventions for other domains of speech services

Results

Data Collected from Baseline to Follow-Up		
Citation	# of Participants	Average decreased %SS
Carey, B. et. al. (2012) ★	3	11.73
Carey, B et. al (2014) ★	14	3.4
Cream, A et.al. (2010) ★ ★	89	VSM: 3.8 Control group: 5.4
Carey, B et.al. (2010) ★ ★	40	Tele-intervention: 1.42 Face-to-face: 2.72
Rousseau, I., Onslow, M., Packman,A., Jones,M. (2008) ★ ★	36	8.83
Wilson, L. & Onslow, M. (2004) ★ ★	5	7.2
Karimi, H.,et al (2013) ★ ★	10	1.38
Harrison, E., Wilson, L., Onslow, M. (1999) ★ ★	1	14.88
Lewis, C.,Packman, A.,Onslow, M., Simpson, J., & Jones, M. (2008) ★ ★ ★	22	4.1
O'Brian, S., Smith, K., & Onslow, M. (2014) ★ ★	3	2.5
Valentine, D. (2014) ★ ★ ★	2	Direct: 2.96 Hybrid: 3.18 Tele-intervention: .84

★ = Camperdown ★ = Lidcombe ★ = VSM ★ = Tele-intervention ★ = Hybrid
★ = Audio Tele-intervention ★ = Direct intervention ★ = No Treatment
★ = Speech Reconstruction

Benefits

• Cost-Effective
• Limited travel
• Convenient scheduling
• Services for school districts that are limited on speech pathologist
• Motivating for adolescents
• Can treat articulation, swallowing, hearing impairment, cognitive, social and voice disorders.

Limitations

• Licensed in the state when the client resides
• Lag in Internet connection
• High parental/caregiver reliance
• Limited cueing options
• Cannot be used with play based therapy

Patient Characteristics

• Patient Characteristics included family history, previous treatment, time of onset, stuttering severity, age, gender, score of the SSI-4, pretreatment %SS, access to technology, and current academic standing.
• Participants in the studies ranged in age from three years five months to seventy-eight years of age across a variety of ethnicities.

Dosage

• The average dosage of treatment time across the 11 studies was 13.7 hours. Treatment was conducted over an average of 34.5 weeks.

Clinical Recommendations

• The findings from the 11 studies were conclusive of a reduction in stuttering symptoms and behaviors on the basis of tele-intervention.
• This can be supported by a reduction of percentage of syllables stuttered (%SS).
• Limitations include a limited sample size, limited control groups, limited treatment protocols, and lack of comparisons to traditional stuttering treatment approaches.
• Further research is recommended to determine the definitive effectiveness of tele-intervention in the treatment of individuals who stutter.