Critical Review:
Is telepractice an effective service delivery model for Auditory-Verbal Therapy for infants with hearing loss?

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This critical review examines the evidence regarding delivering Auditory-Verbal Therapy via telepractice. Study designs include randomized control, retrospective study, and a care report. Overall, the evidence gathered from this review is positive, however, the overlapping reason for success was parental involvement in the therapy sessions. Recommendations for future research and critical practice are provided.

Telepractice is the use of two-way video conferencing to deliver speech language pathology services at a distance by linking clinicians

Search Strategy

Articles related to the topic of interest were found using the following computerized databases: PubMed, NCBI, and SagePub. Keywords used for the database search were as follows:

> (tele$ AND infants) AND (deaf OR hearing loss) AND (AVT OR Auditory Verbal Therapy) AND (outcomes)

The search was limited to articles written in English.

Selection Criteria

Studies selected for inclusion in this review paper were required to investigate outcomes related to using telepractice for AVT with children under the age of 3.

Data Collection

Results of this literature search yielded three articles congruent with the aforementioned selection criteria: One randomized control, one retrospective study, and one case report.

Blaiser, Behl, Callow-Heusser, & White, (2013) conducted a randomized control study to compare the effects of telepractice to traditional in-person therapy. A group of 27 families with DHH infants were randomly assigned to one of the intervention methods. Results of the study indicated that while there was some variability in technology experiences, the telepractice group scored significantly higher on standardized expressive language measures and on parent engagement surveys than the in-person group. The most significant benefit reported by parents in the telepractice group was family engagement and feeling comfortable providing therapy that supported natural environments.

The participants in each group were well matched according to age, degree of hearing loss, communication modality, and geographic location. The nine providers involved delivered service to both groups, and received a 2-hour training session on the use of technology prior to the study. However, the authors acknowledged limitations of this study to include the small sample size, short duration, and reduced intensity of intervention.

The language progress reported in this study is a valid and reliable measure of developmentally-appropriate expressive and receptive language abilities, however only one measure was used, which reduces the impact of their findings. A parental self-report was used pre-and post test, providing congruent subjective results. The study also has limitations in that several families discontinued with therapy due to technology challenges, including connectivity issues.

The study would have been strengthened further, if evaluation methods were used during the therapy phase to determine improvements from session to session. Statistical analyses are appropriate for this study. There is a moderate level of evidence provided which lends support for the effectiveness of delivering telepractice AVT.

Constantinescu, et al. (2014) conducted a retrospective study comparing the 2-year outcomes of children receiving AVT in person with those receiving AVT via telepractice.

The participants in both groups were well-matched according to chronological age, hearing age, degree of hearing loss, and type of amplification. However, inclusion criteria

A selection bias may skew results since only highly motivated and supportive families tend to be selected for this type of treatment.

However, along with being more cost-effective, there is evidence of stronger expressive language outcomes and higher parental engagement when AVT is administered through telepractice (Blasier, et al, 2013).

Research is lacking in this area, and there are inherent limitations to single subject case reports. Statistical analysis along with adjustments made to the methodology and subject selection could have strengthened the validity of the case report, the level of evidence, and thus the clinical relevance obtained from this study.

Telepractice AVT is cautiously recommended because although it may be more cost-effective, promotes stronger expressive language outcomes, and has higher parental engagement, larger and better designed studies