

Session Number: 9162

Topic Area: Speech Sound Disorders in Children

Day/Time: Saturday, November 14, 2015 from 9:30 AM - 11:00 AM

Title: Measuring Participation in Developmental Speech Sound Disorders With a Motor Basis

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Learning Outcomes

1. Describe how the ICF-CY framework can be applied to outcome measurement in speech sound disorders (SSD) with a motor basis;
2. Understand the importance of using participation-level outcome measures in SSD;
3. Identify existing measures that document changes in participation.

Background

Outcome measures in Speech-Language Pathology (SLP) are an essential component of assessing treatment efficacy, monitoring progress during intervention and planning future treatment (McCauley & Strand, 2008). The International Classification of Functioning, Disability and Health: Children and Youth Version (ICF-CY) is a conceptual framework for measuring health and disability factors at individual and population levels (WHO, 2007), and provides a scaffold to think about the child from a broader perspective. The ICF-CY not only encompasses impairment level factors (body structure and function) but also considers the impact of these from a broader social perspective in terms of changes in children's activities and participation. It is not always clear, however, from research literature how treatment change across all levels, and particularly at the participation level, of the ICF-CY should be measured. One area of SLP that is challenging for clinicians and researchers to evaluate treatment change is children with speech sound disorders (SSD) with a motor basis (McCauley & Strand, 2008). Children with motor-based SSD may present with varying degrees of jaw and oro-facial involvement, such as limited control of the degree of jaw height for mid-vowels, jaw movement overextension, decreased jaw stability/lateral jaw sliding, decreased lip rounding and retraction, or overly retracted lips (Namasivayam et al. 2013). Children with these diagnoses are at increased risk for academic, social and emotional difficulties, and thus it is essential to monitor participation-level factors in addition to speech performance during and subsequent to intervention, in order to assess intervention effectiveness (e.g. see Raitano, Pennington, Tunick, Boada, & Shriberg, 2004).

To date, there has been no comprehensive and critical examination of the use of participation-level outcome measures in children with SSD and speech motor control issues. The purpose of this review was to evaluate the use of participation level outcome measures to assess treatment change in children with SSD with a motor basis.

Method

Seven databases were searched for journal articles published between January 1, 1985 and December 31st, 2014 to identify intervention studies in children with SSD, including AMED, CINAHL, Embase, Medline (including In-Process and Other Non-Indexed Citations), PsycINFO, Scopus, and speechBITE. Search terms relating to SSD were combined with terms

relating to intervention. Specific keywords, syntax, and refinements varied depending on database search criteria and limits. The results were further narrowed using the age search limit: child (0-18 years). The search strategy used in Medline is shown in Table 1. The completed search identified a total of 4,029 articles.

All references were exported to RefWorks (Version 2.0; RefWorks-Cos). Duplicate records were removed and references were screened by title and abstract. Articles were included if they measured treatment of developmental SSDs with a motor basis. Articles describing treatment in children with phonologically-based SSD were only included if the treatment studied was an articulation-based intervention. Exclusion criteria included: review articles, non-peer reviewed sources, test validity papers, assessment/ diagnostic papers, no treatment administration/ measurement studies, non-speech papers (e.g. hip dysplasia), language impairment, bilingualism, prosody/lexical deficits, phonological (linguistic-based) disorders, non-speech oro-motor exercises, alternative and augmentative communication (AAC), oral structural issues, traumatic brain injury/tumors, surgical-based intervention, and publications not in English. 250 articles were randomly selected and screened for acceptance by a second author. Krippendorff's alpha for reliability between two independent coders was 0.85. 66 articles were accepted for further analysis.

Results

Only three studies (4.5%) used participation level measures, ranging from a parent/ school questionnaire to standardized assessment, such as Focus on the Outcomes of Children Under Six (FOCUS) and The Socialization Scale (from the Vineland Adaptive Behaviour Scales – Second Edition) (Thomas-Stonell, Oddson, Robertson & Rosenbaum, 2009; 2013; Sparrow, Cicchetti & Balla, 1984).

Discussion and Conclusion

Since the introduction of the ICF-CY in 2007, only three studies (Mecrow et al., 2010; Dale & Hayden, 2013; Pennington et al., 2013) measured outcomes from a broader social perspective, indicating that the application of the multiple levels in the ICF-CY framework in practice has not taken flight in the area of motor-based SSDs. The lack of participation level measures is surprising, since after the late 1990's (1996-97) at least 3 outcome measures were developed that focus on measuring change from a broader social perspective, and could be used with pre-school children with speech and language disorders. These measures are: American-Speech-Language-Hearing Association National Outcome Measure System (Pre-K NOMS), Therapy Outcome Measures (TOMs) and FOCUS (ASHA, 1996; Enderby, 1997; Thomas-Stonell et al., 2009; 2013). Of these 3 measures, FOCUS is particularly recommended due to its sensitivity, published data on validity and reliability, and its ability to capture changes across all of the ICF-CY levels (Thomas-Stonell et al., 2009; 2013). Further studies using multiple levels of measurement (perceptual/ instrumental, body function/ participation) will strengthen our understanding of the relationship between measures and evaluate the functional, meaningful impact treatment has on children with motor-based SSD.

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