Patterns of internal syllable structuring in Childhood Apraxia of Speech

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INTRODUCTION

Childhood Apraxia of Speech (CAS) is a speech sound production disorder, which occurs in absence of speech arrest, articulatory weakness, or any other apparent reason for malfunctioning, and is characterized by impairment of speech motor planning and sequencing, leading to motor speech dyspraxia (Bernthal and Bankson, 2004; Crary, 1984). The impairment in CAS appears to affect a wider variety of symptoms: sequencing, vowel assimilation, rapid production of consonant clusters, difficulty in combining small units, inflexible speech (e.g. difficulty in sequencing, including more difficulties with transitions between states or the impossibility to associate systematically a pattern of abuse), loss of automaticity in speaking movements, difficulty in coordinating lingual-pharyngeal movements, nonidentical postures of speech organs, and difficulty in adjusting to different speaking conditions (Khan-Lewis, 2004). In many cases, the clinical presentation is a pattern of mixed dysarthria and speech dyspraxia.

The symptoms involve the ability to select, plan, organize, and perform a sequence of speech movements, inconsistent control over timing of articulatory gestures (e.g. jaw, tongue, palato-velar, or glottal), and inadmissible use of elevated pitch and dysfluency. These characteristics are accompanied by little awareness of errors and very slow speech. Symptoms from one case vary among children, and different symptoms can be found in the same child (Shriberg, Arama, and Kwiatkowski, 1997a; Shriberg, Arama, and Kwiatkowski, 1997b; Shriberg, Kwiatkowski, Arama, and Davis, 1998; Khan-Lewis, 1986; Alphonse, 1977; Storey, 1992; Hamlett, 1992; Studer and MacNeilage, 1990). The inconsistency of the errors and the impossibility to associate systematically a pattern of abuse, or the presence of different stress conditions, as well as the inadmissible use of elevated pitch and dysfluency, are the most common symptoms of CAS children. The most well-known symptoms of CAS are: (a) difficulties in sequencing phonemes and transitions between them; (b) difficulties in combining small units, including more difficulties with transitions between postures or states; (c) slow articulatory movements, inconsistent control over timing of articulatory gestures; (d) loss of automaticity in speaking movements; (e) nonidentical postures of speech organs, and difficulty in adjusting to different speaking conditions (Khan-Lewis, 1986; Alphonse, 1977; Storey, 1992; Hamlett, 1992; Studer and MacNeilage, 1990).

Recent studies have focused on the phonological processes analysis (KLPA; Khan-Lewis, 1986) also considering the abovementioned factors is given by Crary, 1984: “a group of children with Childhood Apraxia of Speech, for whom the apraxia is the cause of the speech disorder, and who are normal in all other respects...” (Crary, 1984). These children were identified as “a group of children with Childhood Apraxia of Speech, for whom the apraxia is the cause of the speech disorder, and who are normal in all other respects...” (Crary, 1984).

The inconsistency of the errors and the impossibility to associate systematically a pattern of abuse is a consistent feature of CAS children. The most well-known symptoms of CAS are: (a) difficulties in sequencing phonemes and transitions between them; (b) difficulties in combining small units, including more difficulties with transitions between postures or states; (c) slow articulatory movements, inconsistent control over timing of articulatory gestures; (d) loss of automaticity in speaking movements; (e) nonidentical postures of speech organs, and difficulty in adjusting to different speaking conditions (Khan-Lewis, 1986; Alphonse, 1977; Storey, 1992; Hamlett, 1992; Studer and MacNeilage, 1990).

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