Journal of Speech Pathology & Therapy

Kakkar A, JSPT 2021, 6:5

Mini Review Open Access

Application of International Classification of Functioning, Disability and Health in Childhood Apraxia of Speech

Aishwarya Kakkar*

Department of Audiology and Speech-Language Pathology, Amity University, Haryana,India

***Correspondence to:** Kakkar A, Department of Audiology and Speech-Language Pathology, Amity University, Haryana ,India,Tel: 917300098101 ; E-mail: aishwaryakakkarr@gmail.com

Received date: August 03, 2021; **Accepted date:** August 17, 2021; **Published date:** August 24, 2021

Citation: Kakkar A (2021) Application of International Classification of Functioning, Disability and Health in Childhood Apraxia of Speech. J Speech Pathol Ther, 6: 002.

Abstract

The present study reports the application of the International Classification of Functioning, Disability and Health framework, given by World Health Organisation, for the case of an 18-year-old girl with Childhood Apraxia of Speech secondary to neonatal encephalopathy. A motor programming impairment such as CAS is characterized by an array of functional deficits. The ICF framework enables a holistic approach towards the assessment and rehabilitation of all communication disorders, including CAS. The present case study aims at knowing the benefits and advantages of using the ICF model on one such case.

Keywords: Childhood Apraxia of Speech, International Classification of Functioning, Disability and Health

Introduction

Childhood Apraxia of Speech (CAS) affects a child's ability to produce sounds and syllables precisely and consistently, and to produce words and sentences with accuracy and correct speech rhythm. It is a rare condition, affecting only 0.1% of the general population. Consensus has been reached that three core features have diagnostic validity: (1) inconsistent error production on both consonants and vowels across repeated productions of syllables or words; (2) lengthened and impaired coarticulatory transitions between sounds and syllables; and (3) inappropriate prosody (ASHA 2007). Due to motor impairments, the brain is unable to direct and coordinate speech movements. AOS is a neurological disorder that affects the brain pathways involved in planning the sequence of movements involved in producing speech. The brain knows what it wants to say, but cannot properly plan and sequence the required speech sound movements, according to Nidcd. Affected functional communication in neurogenic disorders such as AOS, results in affected ADL and QOL. International Classification of Function, Disability and Health, given by the World Health Organization in 2001, targets goals based on the functionality of an individual and their medical condition, in clinical management. ICF is a tool for measuring functioning in society. It is a versatile tool with a much broader area of use than a traditional classification of health and disability. Thus, the ICF framework plays an integral role in putting functioning in the society, as a target goal, in the rehabilitation of person(s) with communication disorders, such as CAS.

The case is of an 18-year-old south Asian female who was diagnosed with Stage II: Hypoxic-Ischemic Encephalopathy at birth. Her perinatal history consists of delayed birth cry and three episodes of convulsions and apnea. She was on ventilator support for 48 hours in NICU, following her birth. The case's speech and language intervention began at 18 months when Oro motor exercises were recommended due to weakness in the Oro Motor Peripheral Mechanism. At the age of five, she was diagnosed with Apraxia of Speech. The assessment tool is unknown for the same. Intermittent Speech Therapy was taken by the case, since the age of 5 years.

Assessment and Treatment Plan

The case was observed firsthand in July 2020, when the case was 18 years old. The initial stage was the assessment. Apraxia Battery for Adults (ABA-2) by Barbara L. Dabul was administered, following which Mild to Moderate Apraxia of Speech was determined. The case exhibited excessive drooling from both sides of her mouth, phonemic anticipatory and transposition errors, vowel errors, groping and searching behaviors, highly inconsistent speech errors, increasing errors in increasing phonemic sequences, errors in automatic speech, prosodic abnormalities, difficulty in initiating speech, and a gap in receptive and expressive language. In terms of the case's cognitive abilities, the case showed executive dysfunction, passive shyness, difficulty in problem-solving, concrete thinking, and reasoning.

In the following stage, Speech and Language goals were created according to the ICF framework, mainly targeting functional communication. The long-term goals consisted of oro motor exercises for drooling management, problem-solving and reasoning, finer and para-linguistic skills. Along with that, reducing phonological errors has been a constant goal ever since the intervention. Another goal was building self-esteem paired with positive reinforcements as the case tended to be quite defensive and shy due to her speech and language impairments. The purpose of using the ICF framework was to create and work on goals that focus on functionality in her immediate environment, and gradually increase her goals to facilitate functional communication outside her immediate environment, as well. Forty-five-minute long teletherapy sessions were to be conducted via video conferencing platform, three times a week for four months. The materials used for therapy were 1) Flash Cards 2) Videos showing social etiquette 3) Practising conversations with familiar and

unfamiliar people 4) Using online resources such as games and visual simulations.

Expected Outcome

The expected outcome was hypothesized as appropriate communication within unknown and known social settings. The case was expected to problem solve, at least minor situations, if not major. An example would be attending, planning and hosting social events and helping around the house. The case was expected to effectively communicate in ADL to present her wants and needs. Besides, the case was also expected to be able to initiate and maintain conversations in her immediate surroundings with familiar as well as occasional unfamiliar people, such as hostess at a restaurant or calling for a taxi.

Actual Outcome

Following the ICF protocol for four months and 50 sessions, the case was able to functionally communicate in her immediate surroundings such as initiating and maintaining conversations effectively in social settings. The case also effectively introduced herself to new people despite her passive shyness. The actual outcome presented to agree with the expected outcome. The case was also able to communicate her wants and needs in known and unknown social settings, for example, ordering food in restaurants and to call for her taxi. She was able to express her needs without feeling shy, to her friends and family. The case also participated in more cultural events at her school, owing to her improved self-esteem. This is The ICF framework, proving, prioritises functioning goals rather than directly focusing on speech impairments.

Discussion

The application of the International Classification of Functioning, Disability and Health model proved to be extremely important for goal setting in the management and rehabilitation of the case with Childhood Apraxia of Speech. It serves as a holistic approach in the treatment of CAS as it emphasizes on functioning in the society, in the long haul. Setting Speech and Language goals based on this framework meant highlighting her role in the society. Therefore, the goals were working on the case's linguistic skills, Oro motor weakness, cognitive abilities and self-esteem. They enabled improved, effective and appropriate communication in her immediate environment. Although she still showcased occasional passive shyness due to her communication impairments, there was some major improvement. Additionally, as noticed in this case, the journey of rehabilitation of individuals with CAS depends on several factors. These factors can be, but not limited to, team approach, psychological motivation, economic background, early intervention and familial support. The following case had an early intervention from birth and has had the economic means to receive premium care, special education and therapists ever since. Her therapists, educators, family and friends have been an integral part of her journey. This was a contributing factor behind her improvement using the ICF model. This model complies with the aspect to enable functioning in the real world with effective management and treatment of CAS by consistent Speech and Language Therapy and Counselling.

Conclusion

To summarize, the International Classification of Functioning, Health and Disability can play a vital role in the intervention and management of CAS as it proves to be an effective tool for goal setting. It focuses on the rehabilitation of people with CAS by enabling functioning in the society as its target goal. The case in focus is an 18-year-old female who was diagnosed with CAS at the age of 5, due to neonatal encephalopathy at birth. Using the ICF framework, clinical management of CAS enabled effective communication in all kinds of settings. In this case, improvement was noticed after 50 sessions, in a span of four months. Following these sessions, the case was noted to have improved self esteem, problem solving, conversation skills, and a better understanding of linguistic skills according to the social norms. The ICF framework evidently can be used for the rehabilitation of cases with Childhood Apraxia of Speech.

References

1. Nijland L, Maasen B, vander Meulen S, Gabreels F, Kraaimaat FW,et al. (2002) Coarticulation patterns in children with developmental apraxia of speech. Clin Linguist Phon. 16: 461-483.
2. Terband H, Maassen B, van Lieshout P, Nijland L (2011) Stability and composition of functional synergies for speech movements in children with developmental speech disorders. J Commun Disord., 44 (1): 59-74.
3. Grigos MI, Kolenda N (2010) The relationship between articulatory control and improved phonemic accuracy in childhood apraxia of speech: a longitudinal case study. Clin Linguist Phon., 24 (1): 17-40.
4. Velleman SL, Shriberg LD (1999) Metrical analysis of the speech of children with suspected developmental apraxia of speech. J Speech Lang Hear Res., 42: 1444-1460.
5. Lewis BA, Freebairn LA, Hansen AJ, Iyengar SK, Taylor HG, et al. (2004) School-age follow-up of children with childhood apraxia of speech. Lang Speech Hear Serv Sch., 35 (2): 122-140.