

Effect of Palatal Lift Prosthesis on Speech Clarity in Flaccid Dysarthria

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Abstract : Objectives: The aim of the present study was to investigate the effect of Palatal Lift Prosthesis (PLP) on speech clarity in patients with Flaccid Dysarthria. Five speech measures were investigated including Nasalance Scores, Diachokinetic (DDK), Vowel Duration, airflow, and Sound Intensity. Participants: Twelve (7 Males and 5 females) native speakers of Jordanian Arabic with Flaccid Dysarthria following stroke, traumatic brain injury, and amyotrophic lateral sclerosis were included. The age of the participants ranged from 8-65 years with an average of 31.75 years. Design: Nasalance Scores, Diachokinetic rate, Vowel Duration, and Sound Intensity were obtained using the Nasometer II, Model 6450 in three conditions. The first condition included obtaining the five measures without wearing the customized Palatal Lift Prosthesis. The second and third conditions included obtaining the five measures immediately after wearing the Palatal Lift Prosthesis and three months later. Results: Palatal lift prosthesis was found to be effective in individuals with flaccid dysarthria. Results showed decrease in the Nasalance Scores for the syllable repetition tasks and vowel prolongation tasks when comparing the means in the pre PLP with the post PLP at $p \leq 0.001$ except for the /m/ prolongation task. Results showed increased DDK repetition task, airflow amount, and sound intensity, and a decrease in vowel length at $p \leq 0.001$. Conclusions: The use of palatal lift prosthesis is effective in improving the speech of patients with flaccid dysarthria.

Keywords : palatal lift prosthesis, flaccid dysarthria, hypernasality, speech clarity, diachokinetic rate

Conference Title : ICSHS 2014 : International Conference on Speech and Hearing Sciences

Conference Location : Venice, Italy

Conference Dates : November 13-14, 2014