

Reduced Lung Volume: A Possible Cause of Stuttering

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Abstract : Stuttering may be defined as a speech disorder affecting the fluency domain of speech and characterized by covert features like word substitution, omissions and circumlocution and overt features like prolongation of sound, syllables and blocks etc. Many etiologies have been postulated to explain stuttering based on various experiments and research. Moreover, Breathlessness has also been reported by many individuals with stuttering for which breathing exercises are generally advised. However, no studies reporting objective evaluation of the pulmonary capacity and further objective assessment of the efficacy of breathing exercises have been conducted. Pulmonary Function Test which evaluates parameters like Forced Vital Capacity, Peak Expiratory Flow Rate, Forced expiratory flow Rate can be used to study the pulmonary behavior of individuals with stuttering. The study aimed: a) To identify speech motor & physiologic behaviours associated with stuttering by administering PFT. b) To recognize possible reasons for an association between speech motor behaviour & stuttering severity. In this regard, PFT tests were administered on individuals who reported signs and symptoms of stuttering and showed abnormal scores on Stuttering Severity Index. Parameters like Forced Vital Capacity, Forced Expiratory Volume, Peak Expiratory Flow Rate (L/min), Forced Expiratory Flow Rate (L/min) were evaluated and correlated with scores of Stuttering Severity Index. Results showed significant decrease in the parameters (lower than normal scores) in individuals with established stuttering. Strong correlation was also found between degree of stuttering and the degree of decrease in the pulmonary volumes. Thus, it is evident that fluent speech requires strong support of lung pressure and requisite volumes. Further research in demonstrating the efficacy of abdominal breathing exercises in this regard is needed.

Keywords : forced expiratory flow rate, forced expiratory volume, forced vital capacity, peak expiratory flow rate, stuttering

Conference Title : ICSHS 2016 : International Conference on Speech and Hearing Sciences

Conference Location : Venice, Italy

Conference Dates : November 07-08, 2016