Approaching the clinical effectiveness of stress and depression assessment in adults with aphasia through speech waveform analysis and medical management

Pushan Kumar Dutta
IET Kolkata Network, India

Approaching the clinical effectiveness of stress and depression assessment in adults with neurogenic stuttering through speech waveform analysis and medical management is directed to explore the language disorder associated with speech disfluency in language using automated analysis of speech language impairment. Neurogenic stuttering is an acquired communication disorder resulting from TBI, brain damage impairing an individual’s ability to produce speech and language. It may or may not be associated with language comprehension. The current study proposes a highly innovative and novel approach to identify a diagnostic marker for emotional states (stress and depression) that can be captured in the speech signal. The brain is the coordinating point for speech and associated symptoms. However, we cannot develop a brain mapping system for the purpose of detecting the speech deficiencies as the body system responds on the psychological aspects than the physiological aspects in patients. One critical barrier to developing effective therapies for aphasia is a lack of reliable instruments for diagnosing emotional states and disorders within these adults after they have acquired aphasia. The long-term goal is to address this critical barrier and improve healthcare services by identifying a diagnostic marker for emotional states (stress and depression) that can be captured in the speech signal. Quantification of the acoustical measures of the speech signal to emotional markers circumvents the difficulties encountered in assessment of emotional states in adults with aphasia because intact language is not required. At the same time we can develop a speech material where we can compare normal speaker and neurogenic stutterer speech sample where we can irradiate the emotional involvement of lingual communication. It will also help us to understand the speech marker of neurogenic stuttering better which will lead us good differential diagnosis.

pkdgeoindia@gmail.com