A Normative Study of Distortion Product Otoacoustic Emissions (DPOAEs) in a Sri Lankan Adult Population

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Distortion Product Otoacoustic emissions (DPOAEs) are used in hearing screening, differential diagnosis of sensorineural hearing loss, monitor ototoxicity and noise exposure. Due to the lack of evidence in normative data for OAEs within the Sri Lankan population, a normative study of DPOAE was conducted among Sri Lankans ranging from 18-30 years. Objectives of the study were to develop normative data of DPOAEs of adults which can be used in audiological clinical settings in Sri Lanka and to compare DPOAE amplitude levels in different age groups within the study sample as well as gender and right-left ear differences. Quantitative study using multi stage sampling was carried out with a sample size of 221(mean age = 23.97years) inclusive of 107 males and 114 females. Study setting was the Faculty of Medicine, University of Kelaniya, Sri Lanka. Prior to DPOAE test hearing, screening was done to confirm individual subjects with normal hearing, normal middle ear function without any exclusion factors. DPOAE was administered in a sound proof booth using calibrated instrument (Biologic navigator pro/scout software). Data was analyzed using SPSS software. Developed mean signal-to-noise ratio (SNR) value was 10dB SPL-25dB SPL in the frequency range 750Hz to 8000Hz. Results indicated a variety of significant effects, particularly in the higher frequencies. Developed DPOAE normative data for biologic scout can be used in audiological clinical settings in Sri Lanka. Repeating the test within a period of time would ensure the reliability and extensive research into variables such as gender differences and age in future studies are recommended.