

Central Masking and Its Effect on Threshold in Indians *

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Central masking phenomenon though reported by Wegel and Lane in 1924 it was not been studied elaborately. Only few studies have been reported so far on this area. The present study is therefore aimed at estimating the central masking factor on threshold of hearing in normal subjects.

A sample of 60 subjects with an age range of 18 to 24 years were selected for the study. The subjects were then divided randomly into two experimental groups namely Experiment I and Experiment II. In Experiment I the tone and the masker used were continuous where as in Experiment II both were pulsed.

After establishing the hearing thresholds for pure tones, both continuous and pulsed and narrow band noise and wide band noise, both continuous and pulsed, the better ear was selected for masking in two groups. Three levels of noise, 20 dB SL, 30 dB SL and 40 dB SL respectively were used to study the effect on the threshold of hearing in the centralateral ear. The test frequencies used were 250 Hz, 500 Hz, 1 KHz, 2 KHz, 3 KHz and 4 KHz. The central masking effect was evaluated by comparing the unmasked thresholds with masked thresholds for narrow band and wide band noise separately.

The data obtained were then analysed statistically to find the significance of these results when compared to other study results.

The results, on analysis, indicate that narrow band is an efficient masker for pure tones than wide band noise thereby supporting the viewpoint of Fletcher (1940) and Zwicker (1957) and the critical band hypothesis.

Though the present study limit the use of central masking effect as a correction factor in clinical masking we fervently believe that it may become an indirect tool in the investigation of the normal and pathological auditory nervous system.

Suggestions for Further Study

- (1) Further research may be conducted on clinical group to study the behaviour of the pathological ears.
- (2) Study may be repeated using Bone conduction receivers.
- (3) Change of central masking using insert receiver and using higher sensation levels may be studied.
- (4) The effect of continuous noise on pulsed tone and pulsed noise on continuous tone may also be explored.
- (5) Change of threshold shift by varying the frequency of the masker and keeping the frequency of the test tone constant may be studied for different audiometric frequencies.

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