

Effect of Non-Invasive Electrical Stimulation on Partial Hearing Loss: Pilot Study

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Abstract : Background: Partial hearing loss is the inability to hear effectively as a normal hearing individual whose hearing threshold is 20 dB or better in both ears. Individuals with partial hearing loss may benefit from non-invasive electrical stimulation as a method of therapy and possible intervention. Objective: The project aims to assess and relate the efficacy of electrical stimulation on individuals with partial hearing loss. The study's goal was to evaluate the different sorts of non-invasive electrical stimulation in tinnitus and hearing loss in order to build the framework for future research. Method: In this pilot study, a total of five patients of age group above 50 years were selected with partial hearing loss. The electrical modality of Repetitive Transcranial Magnetic Stimulation (RTMS) was used among the patients and was evaluated using gold questionnaires- HHIA and APHAB for hearing at intervals of 0-7-14 days. The statistical data was analyzed by SPSS software-16. Results: There were not much significant changes in the hearing of the patients when non-invasive electrical modality was applied as an intervention in the partial hearing loss condition. However, there was minimal change in the daily functioning of the patient with the application of intervention. Conclusion: This study concluded that non-invasive electrical stimulation had minimal to no effect on the partial hearing of the patients.

Keywords : non-invasive, hearing loss, transcranial magnetic stimulation, partial deafness, transcranial direct current stimulation, tinnitus

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