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## Auditory sensory gating in Huffaz using an auditory brainstem response with a psychological task: A preliminary investigation

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### Abstract

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**Objective:** This study aims to investigate the auditory sensory gating capacity in Huffaz using an auditory brainstem response (ABR) test with and without psychological tasks. **Methods:** Twenty-three participants were recruited for this study. The participants were comprised of 11 Huffaz who memorized 30 chapters of the Islamic Scripture (from the Quran) and 12 non-Huffaz as the control group. All participants had normal hearing perception and underwent an ABR test with and without psychological tasks. The ABR was elicited at 70 dB nHL using a 3000 Hz tone burst stimulus with a 2-0-2 cycle at a stimulus repetition rate of 40 Hz. The ABR wave V amplitude and latencies were measured and statistically compared. A forward digit span test was also conducted to determine participants' working memory capacity. **Results:** There were no significant differences in the ABR wave V amplitudes and latencies between Huffaz and non-Huffaz in ABR with and without psychological tasks. There were also no significant differences in the ABR wave V amplitudes and latencies in both groups of ABR with and without psychological tasks. In addition, no significant differences were identified in the digit span working memory score between both groups. **Conclusions:** In this study, based on the ABR findings, Huffaz showed the same auditory sensory gating capacity as the non-Huffaz group. The ABR result was consistent with the digit span working memory test score. This finding implies that both groups have similar working memory performance. However, the conclusion is limited to the specific assessment method that we used in this study. © 2020 The Authors

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