Author's response to reviews

Title: Short GSM mobile phone exposure does not alter human auditory brainstem response

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To the Editor of BMC Public Health,

Please find enclosed the manuscript titled "Short GSM mobile phone exposure does not alter human auditory brainstem response" by G. Stefanics et al. to be considered for publication in BMC Public Health. There are about 1.6 billion GSM mobile phones in use throughout the world today. Due to the close proximity of the antenna of the mobile handset to the user's ear and head, the brain is inevitably exposed to electromagnetic fields with a relatively high specific absorption ratio. In this study, we aimed to advance our understanding of potential adverse effects of GSM mobile phones on the human hearing system. Previous findings from our laboratory indicated that mobile phone irradiation resulted in an increase of latency of the auditory brainstem response wave V. However, subsequent studies from other laboratories could not replicate this finding. In order to resolve the controversy between the conflicting results, we replicated our previous study using a more advanced protocol. We recorded auditory brainstem responses to condensation, rarefaction and alternating click sound stimuli in young, healthy volunteers with normal hearing. We analysed the latency of auditory brainstem response waves I, III and V before and immediately after genuine or sham mobile phone electromagnetic field irradiation.

The protocol allowed us to determine, whether mobile phone irradiation had any effect on the latency of auditory brainstem response waves. Results clearly show that a single 10 minute exposure to electromagnetic fields emitted by a commercial mobile phone does not induce significant changes in the latency of auditory brainstem response waves in humans. Since our present results may be of widespread interests, we believe that communication of our findings in BMC Public Health would be appreciated by a broad range of researchers in the field.

The experiments were conducted in full compliance with the Helsinki Declaration and all relevant national and international ethical guidelines. The EEG recordings were carried out in the EEG laboratory of the Department of Experimental Zoology and Neurobiology, University of Pecs, Pecs, Hungary after informed consent was obtained from the subjects. The study was approved by the Ethics Committee of the University of Pecs. All authors have approved the manuscript as submitted herewith. This research is not being considered for publication elsewhere.

Sincerely,

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