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Abstract

Tinnitus is a perception of sound in the absence of an external source. The aim of our study was to investigate with a meta-analytical approach, whether mobile phone (MP) use increases the risk of tinnitus. Eight studies reporting the risk of tinnitus in relation to MP use were identified, and six high-quality studies (two cohort studies, one case–control study, and three cross-sectional ones) were included in the meta-analysis. The quality assessment was performed using the Newcastle–Ottawa scale. The risk of tinnitus was analyzed depending on the exposure to MPs in subgroups according to the study design and method of exposure assessment. Two cohort studies, which assessed the exposure to MPs using network operator data, indicated no significantly increased risk of tinnitus among highly exposed MP users in comparison to lightly exposed individuals (odds ratio [OR]: 1.03 [95% confidence interval [CI]: 0.93–1.15]). Likewise, the self-reported exposure data from two cohorts/case–control and four cross-sectional studies did not find an association between exposure to MPs and tinnitus (OR: 1.20 [95% CI: 0.40–3.61] and OR: 1.73 [95% CI: 0.67–4.49], respectively). Current scientific knowledge, including high-quality studies with a reliable exposure assessment based on network operator data, does not support the hypothesis that MP use is associated with tinnitus. © 2020 Bioelectromagnetics Society.

Summary: The authors concluded that current high-quality evidence does not support the hypothesis that mobile phone use is associated with tinnitus. This includes studies with reliable, objective exposure measurement.