Original Paper

Effect of electromagnetic field of mobile phones on blood pressure, heart rate and arrhythmia
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Abstract

Background and Objective: Electromagnetic field of cell phones may affect the biological systems. This study was done to evaluate the effect of electromagnetic field of mobile phones on blood pressure, heart rate and arrhythmia on students of Kurdistan University of Medical Science, in West of Iran.

Materials and Methods: In a randomized, double-blind clinical Trial, 56 young healthy volunteers with 20-30 years age were divided in two groups: exposure (n=27) and control (n=29). Cell phone was kept in front of the heart. Non functional cell phone was used in the control group. Systolic and diastolic blood pressure, heart rate and basic ECG were recorded. The Parameters were recorded in stage one (before set on cell phone), stage two (the first 5 minutes), stage three (6 minutes, with silent ringing), stage four (after 17 minute connection) and stage five (after 35 min connection). In all Stages, it was evaluated by cardiac monitoring (Lead2) for the presence of (sinus arrhythmia, sinus bradycardia, SA block, AV block, PAC and PVC).

Results: Systolic and diastolic blood pressure and heart rate did not show to have any significant differences between two groups in any stages. Rate of sinus arrhythmia was higher in exposure group at stages four and five, but only in stage four, this difference was shown to be significant (P<0.05).

Conclusion: The findings of this study showed that, electromagnetic of cellular phone cause sinus arrhythmia after 17 minute connection, to prevent the side effect of cell phone, we suggest that, cell phone set distant away from heart and reduce the connection time.

Keywords: Cell Phone, Arrhythmia, Heart Rate, Blood Pressure

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