

Original Paper

Effect of electromagnutic field of mobile phones on blood pressure, heart rate and arytmia

Rasool Kavyannejad (BSc)*¹, Noshin Hadizade (MD)²

Roghaye Mohammad Taghi (BSc)¹, Fardin Gharibi (MSc)³

¹Nurse, Kurdistan University of Medical Science, Kurdistan, Iran. ²Assistant Professor, Department of Cardiology, Kurdistan University of Medical Sciences, Kurdistan, Iran. ³MSc Manegment, Kurdistan University of Medical Sciences, Kurdistan, Iran.

Abstract

Background and Objective: Electromagnutic field of cell Phones may affect the biological systems. This study was done to evaluate the effect of electromagnutic field of mobile phones on blood pressure, heart rate and arytmia 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: expousure (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 5minutes), stage three (6minutes,with silent ringing), stage four (after 17min conection) and stage five (after 35 min conection). In all Stages, it was evaluated by cardiac monitoring (Lead2) for the presence of (sinus arrythmia, 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 arrythmia was higher in expousure 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 arrythmia 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, Arrythmia, Heart Rate, Blood Pressure

* **Corresponding Author:** Rasool Kavyannejad (BSc), E-mail: rasol_kavyan@yahoo.com

Received 26 Oct 2008

Revised 29 Jun 2009

Accepted 12 Jul 2009