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Neurophysiological effects of mobile phone electromagnetic fields on humans: a comprehensive review.

Valentini E, Curcio G, Moroni F, Ferrara M, De Gennaro L, Bertini M.

Source

Dipartimento di Psicologia, Università di Roma "La Sapienza", Italy.

Abstract

In recent years a growing number of people have begun to use mobile phone technology. This phenomenon has raised questions and doubts about possible effects on users' brains. This literature review focuses on the human electrophysiological and neuro-metabolic effects of mobile phone (MP)-related electromagnetic fields (EMFs) published in the last 10 years. To this end, all relevant papers have been reported and, subsequently, a literature selection has been carried out by taking several criteria into account, such as: blind techniques, randomization or counterbalancing of conditions and subjects, detail of exposure characteristics and the statistical analyses used. As a result, only the studies meeting the selection criteria have been described, evaluated and discussed further. The main goal of this review is to provide a clear scenario of the most reliable experiments carried out over the last decade and to offer a critical point of view in their evaluation. It is concluded that MP-EMFs may influence normal physiology through changes in cortical excitability and that in future research particular care should be dedicated to both methodological and statistical control, the most relevant criteria in this research field.

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Publication Types

Review

MeSH Terms

Body Burden

Brain/physiology*

Brain/radiation effects*

Cellular Phone*

Cerebrovascular Circulation/radiation effects*

Electroencephalography/radiation effects*

Electromagnetic Fields*

Environmental Exposure

Evoked Potentials/radiation effects*

Humans

Models, Neurological

Radiation Dosage

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COS Scholar Universe

Medical

Electromagnetic Fields - MedlinePlus Health Information