

## WELL BEING AND HEALTH

This category of research was most commonly generated using sectors of the population with higher exposures to Cell, Broadcast and Radar Towers before personal wireless devices were so prevalent inside and outside the home. It can be said we are now equally exposed to higher RF/microwave radiation because of abundance of close proximity personal wireless devices. Therefore, health symptoms and complaints could be similar to those experienced just 8 years ago by more distant towers and antenna farms.

Many of the Studies involve self-reporting answers to questionnaires using Distance from neighboring RF Transmitters and RF measurements in the home to verify the results.

Attributing health issues are:

***Sleep Disorders, headaches, irritability, depression, anxiety, fatigue, digestive issues, memory/learning issues, dizziness, flushing, tinnitus, tremors, cardiac issues.***

### FIELD EXPOSURES - Uncontrolled Environments

#### Cell , Broadcast Towers & Radar

[Sleep quality and Melatonin levels Increased after Shutdown of Radio transmitter.](#) Improvement was greatest in population with poor sleep quality.

***'Effect of short-wave (6-22 MHz) magnetic fields on sleep quality and melatonin cycle in humans: the Schwarzenburg shut-down study'***; Altpeter ES, Rösli M, Battaglia M, et al.; Source Department of Social and Preventive Medicine, University of Berne; 1996  
**Switzerland, 1996**

School children living near a radio station [suffered reduced motor function, memory and attention spans](#)

***Motor and psychological functions of school children living in the area of the Skrunda Radio;*** Location Station in Latvia; A. A. Kolodynski and V. V. Kolodynska; Institute of Biology, Latvian Academy of Sciences,  
**Latvia, Russia, 1999:**  
Tag: Learning and Behavior;

[Multiple symptoms – sleep problems, headaches, irritability, depression, nausea, loss of memory, dizziness](#) ; found in people living closest to the referenced cell tower.

***'Investigation on the health of people living near mobile telephone relay stations: I/Incidence according to distance and sex'***; Santini R, Santini P, Danze JM, Le Ruz P, Seigne M.; France, 2002; Institut national des sciences appliquées, laboratoire de biochimie-pharmacologie, bâtiment Louis Pasteur

**France, 2002:**

[Irritability, fatigue, sleep, concentraton, headaches](#), cardiovascular disorders found in population living close to cell tower and higher measurable exposure readings of RF/microwave radiation.

***The Microwave Syndrome- Further Aspects of a Spanish Study***; Oberfeld Gerd, Navarro A. Enrique, Portoles Manuel, Maestu Ceferino, Gomez-Perretta Claudio; Public Health Department Salzburg, Austria, University Hospital La Fe, Valencia, Department of Applied Physics, University Valencia,  
**Spain, 2004**

[Fatigue, irritability, lack of appetite, sleep troubles, depression and lack of concentration](#) were especially related with higher RF/Microwave (*GSM transmitter*) exposure

***Subjective symptoms related to GSM radiation from mobile phone base stations: a cross-sectional study***; Claudio Gómez-Perretta, Enrique A Navarro, Jaime Segura, Manuel Portolés,; Research Center, University Hospital La Fe, Valencia, Spain; BMJ Open 2013;3:e003836 doi:10.1136/bmjopen-2013-003836  
**Spain, 2003 & 2013**

Residents living closer to cell tower and higher levels of exposure reported more [circulatory problems, sleep disturbances, irritability, depression, blurred vision, and concentration difficulties](#)

***Subjective symptoms reported by people living in the vicinity of cellular phone base stations: review***; Bortkiewicz A, Zmyłony M, Szyjowska A, Gadzicka E; Med Pr. 2004;55(4):345-51  
**Poland, 2004:**

[Headaches, concentration problems, cold hands & feet, perceptual speed increased](#) while accuracy went down slightly. Sleep quality was not effected by those having higher exposure levels from cell towers in their home

***Subjective symptoms, sleeping problems, and cognitive performance in subjects living near mobile phone base stations***; H-P Hutter, H Moshammer, P Wallner, and M Kundi; Institute of Environmental Health, Medical University of Vienna, Austria  
**Austria, 2005:**

In contrast, people exposed to higher cell tower radiation levels [experienced greater calmness and lower arousal rates](#) than people exposed to much lower cell tower radiation. NOTE: *could greater calmness and lower arousal rates be implication of Fatigue.*

***GSM base stations: short-term effects on well-being.***; Augner C1, Florian M, Pauser G, Oberfeld G, Hacker GW.; IIGMB, Research Institute for Frontier Questions of Medicine and Biotechnology, Landeskrankenhaus Salzburg, University Clinics of the Paracelsus Medical Private University, Salzburg, ; Bioelectromagnetics. Jan;30(1):73-80. doi: 10.1002/bem.20447.

**Austria, 2009**

[sleep, depression, greater infections, skin and cardiovascular problems, visual & auditory changes and greater gastrointestinal problems](#) were found in homes with higher readings of RF/microwave radiation.

**'Specific Health Symptoms from Cell Phone Radiation Frequencies in Selbitz (Bavaria, Germany)— Evidence of a Dose-Response Relationship'**; Horst Eger and Manfred Jahn; Bavarian Municipality of Selbitz; **Germany, 2010:**

[Headache, memory changes, dizziness, tremors, depressive symptoms, sleep disturbance](#) were found in population living under or opposite Building site Antenna farms

**'Neurobehavioral effects among inhabitants around mobile phone base stations'**; G. Abdel-Rassoul \*, O. Abou El-Fateh, M. Abou Salem, A. Michael, F. Farahat, M. El-Batanouny, E. Salem; Community, Environmental and Occupational Medicine Department, Faculty of Medicine, Menoufiya University, Shebin El-Kom **Egypt, 2007**

Inhabitants living [less than < 300m from Cell tower experienced statistically significant higher incidence nausea, headache, dizziness, irritability, discomfort, nervousness, depression, sleep disturbance, memory loss](#) compared to those living >300 mtrs away.

**Health effects of living near mobile phone base transceiver station (BTS)antennae: a report from Isfahan, Iran;** Daryoush Shahbazi-Gahrouei, Mojtaba Karbalaee, et al.; Department of Medical Physics and Medical Engineering, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran **Iran, 2014,**

#### LAB EXPOSURES - Controlled Environments

Electrosensitive subjects exposed to stronger cell tower RF emissions reported symptoms [like buzzing in the head, heart palpitation, lightheadedness, anxiety, breathlessness, respiratory problems, nervousness, agitation, headache, tinnitus, heat sensation and depression](#). The symptoms were additionally verified by significant brain wave changes as shown in EEG

**Cell phone base stations change brain currents and cause unwellness;** Oberfeld,G, Schimke H., Bernatzky G.; Salzburg Univ & Land Salzburg – Depts of Neurodynamics & Neurosignaling, Environmental Medicine, Salzburg, Austria; Press Release from Omega News – May 1, 2005 **Austria, 2005**

#### Cell Phone

[Headaches & sleep delay problems](#) were most strongly associated with cell phone exposure.

***'The EFects of 884 MHz GSM Wireless Communication Signals on Self-reported Symptoms and Sleep | An Experimental Provocation Study'***; Bengt Arnetz, et al.; Wayne State University & Uppsala University, USA, 2Karolinska Institutet, Sweden; **US & Sweden, 2007**