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The evidence is clear: Living close to a mobile phone mast has consequences

<https://nejti15g.dk/mobilmaster/beviserne-er-klare-det-har-konsekvenser-at-bo-taet-pa-en-mobilmast/>

BIOLOGICAL EFFECTS / MOBILE MASTS / MOBILE MASTS AND SAFETY / HEALTH RISKS OF ELECTROMAGNETIC RADIATION

Spanish wildlife biologist, BSc, Alfonso Balmori (1) had his research project 'Evidence for a health risk of RF on people living around mobile phone base stations: from radiofrequency disease to cancer' published on 14 July 2022 (2)

Abstract

The aim of the project was to conduct a complete review of the existing scientific literature to update knowledge on the effects of mobile masts on humans. Studies conducted in real urban environments, with mobile masts located close to apartments, were selected. The overall results of the review show three types of effects from mobile masts on human health: radiofrequency illness (RS), cancer (C) and changes in biochemical parameters (CBP).

Of all studies, 73.6% showed effects

Considering all the studies reviewed globally (n=38), 73.6% (28/38) showed effects: 73.9% (17/23) for radiofrequency disease (hypersensitivity), 76.9% (10/13) for cancer and 75.0% (6/8) for changes in biochemical parameters. However, studies that did not meet the strict conditions for inclusion in the review provided important additional evidence. The existence of similar effects from studies from different sources (but with RF [radio frequency radiation] with similar characteristics), such as radar, radio and TV antennas, wireless smart meters and laboratory studies, reinforces the conclusions of this review. Of particular importance are studies conducted on animals or trees in the vicinity of cell towers, which may not be aware of their proximity and which can never be attributed to psychosomatic effects.

Excerpt

Introduction:

Over the last few decades, hundreds of thousands of mobile phone masts and other types of wireless communication antennas have been installed around the world, in cities and in nature, including in protected natural areas, in addition to the antennas already in place (television, radio transmission, radar, etc.) (3) Only the aesthetic aspects or city regulations have generally been taken into account in this implementation, while the biological, environmental and health effects of the associated non-ionizing electromagnetic radiation emissions have not yet been assessed. The impact on people living around these man-made electromagnetic field sources (antennas) has therefore not been considered.

In France, there is a significant contribution of mobile phone masts to the exposure to radiofrequency electromagnetic fields (RF-EMF) of urban dwellers living nearby (De Giudici et al., 2021). Some studies from India indicate that more than 15% of people have EMF intensity levels above 12 V/m due to their proximity to antennas (Premlal and Eldhose, 2017). Exposure estimates have shown that RF EMF from mobile phone systems is stronger in urban areas than in rural areas. For example, RF radiation levels have increased significantly in Sweden in recent years, both outdoors and indoors, due to new telecommunication technologies, and the median power density measured for RF fields between 30 MHz and 3 GHz was 16 $\mu\text{W}/\text{m}^2$ in rural areas, 270 $\mu\text{W}/\text{m}^2$ in

built-up areas and 2400 $\mu\text{W}/\text{m}^2$ in urban areas (Hardell et al., 2018). Total exposure varies not only between urban and rural areas but also, depending on housing types, between different floors of a building, with a tendency for exposure in buildings to increase at higher floors (Breckenkamp et al., 2012).

Research

Over the last five decades, and more intensively since the beginning of this century, many studies and numerous surveys have been published on the effects of man-made electromagnetic radiation on people living around antennas. The first studies were carried out with radio and television antennas, investigating increases in cancer and leukaemia (Milham, 1988; Maskarinec et al., 1994; Hocking et al., 1996; Dolk et al., 1997a, 1997b; Michelozzi et al. 1998; Altpeter et al., 2000), as well as around radars (Kolodynski and Kolodynska, 1996; Goldsmith, 1997).

Regarding mobile masts, there are scientific inconsistencies in their effects: some studies concluded that there are no health-related effects (e.g. Augner and Hacker, 2009; Blettner et al., 2009; Rösli et al., 2010; Baliatsas et al. , 2016), whereas others found increases in cancer and other health problems in people living around the antennae (e.g. Santini et al., 2002; Navarro et al., 2003; Bortkiewicz et al, 2004; Eger et al., 2004; Wolf and Wolf, 2004; Abdel-Rassoul et al., 2007; Khurana et al., 2010; Dode et al., 2011; Shinjyo and Shinjyo, 2014; Gandhi et al., 2015; López et al., 2021; Rodrigues et al. ., 2021).

Symptoms

There is a specific symptomatology associated with radar and RF exposure at low levels, characterized by functional disturbances of the central nervous system (headache, sleep disturbances, malaise, irritability, depression, memory loss, dizziness, fatigue, nausea, loss of appetite, difficulty concentrating, vertigo, etc.), symptoms that have been termed 'RF disease' (hypersensitivity) (Lilienfeld et al, 1978; Johnson Lyakouris, 1998; Navarro et al., 2003).

Section excerpt

Methods:

Only studies conducted in real urban environments, with mobile masts placed close to apartments, were selected. Studies conducted in larger regions with numerous antennas, based on surveys and geographical data, were also included.

Results:

The studies that met the selected criteria are presented in chronological order in Table 1, catalogued as Y/N depending on whether they found effects or not. The selected studies cover three types of effects: radiofrequency sickness (RS) (according to Lilienfeld et al., 1978; Johnson Lyakouris, 1998), cancer (C) and changes in biochemical parameters (CBP). Table 1 also includes the authors, year and country, antenna type, study design, diseases and symptoms found/not found and the main conclusions from each study.

Discussion:

The results of this review show three types of effects from mobile masts on human health: radiofrequency disease, cancer and changes in biochemical parameters (Fig. 1). Among all these studies, most of them found effects (73.6%). Thus, despite some limitations and differences in study design, statistical measures, risk estimates and exposure categories (Khurana et al., 2010), together they provide a consistent picture of the effects on the health of people living near mobile phone masts.

The precautionary principle

The International Commission on Non-Ionizing Radiation Protection (ICNIRP) (4) is a private organization that issues exposure guidelines that are then adopted by governments, but it has been accused of having conflicts of interest (Hardell and Carlberg, 2020; Hardell et al, ICNIRP's limit values (2010, 2020) are thousands of times above the levels at which effects are recorded for both extremely low frequency and RF man-made EMFs and only take into account thermal (heat) effects, whereas the vast majority of recorded effects are non-thermal. Existing guidelines for public health protection only consider the effects of acute intense (thermal) exposures and do not protect against long-term lower-level exposures (Israel et al., 2011; Yakimenko et al., 2011; Blank et al., 2015 ; Starkey, 2016; Belpomme and Irigaray, 2022). The duration of exposure is crucial to assess the induced effects.

Conclusion:

Under the current circumstances, it seems that the scientific experts in the field are very clear about the serious problems we face and have expressed this through important appeals (Blank et al., 2015; Hardell and Nyberg, 2020). However, the media, responsible organisations (World Health Organization, 2015) and governments do not pass on this crucial information to the population, which thus remains uninformed. For these reasons, the current situation is likely to end in a crisis not only for health, but also for the technology itself, as it is unsustainable and harmful to the environment and people.

Source:

1) Balmori, A. 'Evidence for a health risk by RF on humans living around mobile phone base stations: From radiofrequency sickness to cancer.' Environmental Research (2022), doi: 10.1016/j.envres.2022.113851.

<https://www.sciencedirect.com/science/article/abs/pii/S0013935122011781>

2) You can read more about Balmori here:

<https://ehtrust.org/26684-2/>

3) USA: According to Joel M. Moskowitz, as of 6 February 2021 at www.antennasearch.com, an industry website, there were 803,000 cell towers and 2.1 million cell towers reported in the USA. Texas has the most cell towers (80,300), and California has the most cell towers (151,000). We cannot verify the accuracy of this data because the FCC only collects data on certain types of cell towers. The difference between the two types is that the cell tower may consist of a larger number of different transmission towers.

<https://millmanland.com/company-news/what-is-a-cell-tower-and-how-does-a-cell-tower-work/>

<https://www.steelintheair.com/cell-site-types/>

Denmark: There are approximately 13,000 mobile masts in Denmark registered in the mast database. One in four is on public land, while three quarters are on private rooftops, private grass or land. Most Danes would agree that good mobile coverage is a good idea, but few would want a mobile mast near their home.

<https://www.dingeo.dk/data/mobilmaster/>

4) About ICNIRP see e.g. more here:

<https://nejtil5g.dk/icnirp/5g-tester-graenserne-for-tillid/>

See more here:

Joel M. Moskowitz has collected more links to research articles and studies on mobile masts and health effects:

<https://www.saferemr.com/2015/04/cell-tower-health-effects.html>

Mobile masts, health risks and law and justice. What can you do about it?

<https://nejtil5g.dk/dokumenter/mobilmaster-sundhedsrisici-vejledningsmateriale-og-hvad-kan-du-gore-ved-det/>

Microwave radiation from cell towers on rooftops produced medical symptoms consistent with microwave syndrome:

<https://nejtil5g.dk/sundhedsrisici-ved-elektromagnetisk-straaling/casestudie-5g-giver-mikroboelgesyndrom/>

Mobile masts and hotspots in Stockholm:

<https://nejtil5g.dk/mobilmaster-og-sikkerhed/mobilmaster-og-hotspots-i-stockholm/>

Swedish research on mobile phone masts and electromagnetic hypersensitivity:

<https://nejtil5g.dk/sundhedsrisici-ved-elektromagnetisk-straaling/svensk-forskning-om-mobilmaster-og-elektromagnetisk-overfoelsomhed/>

Santini R. et al: Investigation on the health of people living near mobile telephone relay stations: I/Incidence according to distance and sex. Pathol. Biol. 2002

Health problems associated with microwaves. Decreases with distance from mobile mast to dwelling. Despite exposure being well below current limits. The limit values therefore do not appear to be limiting health problems.

Red bars are closest to the mobile mast, black bars furthest away.

SYMPTOMS:

1. Exhaustion
2. Sleep disturbance
3. Headaches
4. Discomfort
5. Concentration problems
6. Depression
7. Memory loss
8. Visual disturbances
9. Irritability
10. Hearing disorders
11. Skin problems
12. Cardiovascular
13. Dizziness
14. Lack of appetite
15. Movement problems
16. Nausea

A questionnaire survey was conducted among 530 people (270 men, 260 women) living or not near mobile phone base stations on 18 non-specific health symptoms. Comparisons of complaint frequencies (CHI-SQUARE test with Yates correction) according to distance from base station and gender showed significant ($p < 0.05$) increase compared to subjects living > 300 m or not exposed to base station, up to 300 m for fatigue, 200 m for headache, sleep disturbance, discomfort etc. 100 m for irritability, depression, loss of memory, dizziness, libido decrease etc. Women complained significantly more often than men ($p < 0.05$) about headache, nausea, loss of appetite, sleep disturbance, depression, discomfort and visual disturbance. This first study of symptoms experienced by people living near base stations shows that, in view of radio protection, the minimum distance of people from mobile phone base stations should not be < 300 m.

<https://www.iddd.de/umtsno/Santini.pdf>

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