



Adverse Health Effects from Wireless Fidelity (Wi-Fi)

Sushilkumar E. Khaparde

Bhawabhuti Mahavidyalaya Amgaon, Dist-Gondia (M.S.) India

Abstract: Wi-Fi is convenient but many have raised doubts concerning the safety of unseen forces that permeate everything around us. Since the introduction of Wi-Fi in 1997, researchers have performed dozens of studies to explore the subject. The results are clear and shocking, Wi-Fi can negatively affect overall health and brain health, especially in children. Wireless Internet routers or Wi-Fi modems use dangerous electromagnetic radiation to send their signals to your computer through walls. If you have a wireless Internet router set up in your home or office (or WiMax, Blue Tooth, Air-Port Extreme, Air-Port Express, Netgear, D-Link, Belkin, Linksys and other wireless network devices) you are receiving massive EMF exposure, and living or working in a dangerous soup of radiation. These antenna radiation patterns have been shown to lead to numerous health problems.

Keywords—Modem, Wi-Fi, LED, antenna radiation, EMF, Blue Tooth.

I. INTRODUCTION

Wi-Fi is a relatively new communication technology, use of the radiofrequency (RF) band for communications and other applications is not new and widespread public exposure to these frequencies has occurred for decades. In response to public concerns about health effects of Wi-Fi and wireless networks and calls by government agencies for research on possible health and safety issues with the technology, a considerable amount of technology-specific research has been completed. A series of high quality engineering studies have provided a good, but not complete, understanding of the levels of radiofrequency (RF) exposure to individuals from Wi-Fi. The limited number of technology-specific bio effects studies done to date are very mixed in terms of quality and outcome. Unequivocally, the RF exposures from Wi-Fi and wireless networks are far below U.S. and international exposure limits for RF energy.



Different devices connected to Antenna



Wi-fi Symbol

INTENSITY OF EMF EXPOSURE

Those DSL routers and cable modems that make it so convenient to get online emit electromagnetic radiation in the low gigahertz frequency level—this level of radiation is considered by scientists and health experts as potentially dangerous. In fact, the typical home or office wireless networks transmit radio signals in the same general frequency range as the frequency that microwave ovens use to cook food.

DURATION IS A FACTOR IN WI-FI HEALTH DANGERS

Most Wi-Fi health damage comes from cable modems and DSL routers don't get turned off at night: they stay on. Connecting your machines to the internet whether you're surfing or not...and flooding your space with EMFs 24/7.

LAYERING INCREASES THE WI-FI HEALTH EFFECTS

Think about when happens when you check for a network signal. Do you see the Wi-Fi signals of your neighbors? Harmful artificial EMFs are compounding all around you.

RADIATION HEALTH EFFECTS

You may have read about a recent case that made the news: A physician noted members of her family experiencing sleep disturbances, heart palpitations, migraines, and general poor health, all starting in the same week.

These electromagnetic radiation based ill health effects continued on and on. After eliminating every other possible cause, she turned off the router and they felt better. Luckily, they were not in an area swamped with EMFs from wireless technologies from nearby homes. Needless to say, the family uses a hard-wired Internet connection and the health problems haven't come back.

RECENT EMF STUDIES

More scientific EMF studies suggest prolonged exposure to wireless DSL or cable devices cause tumors, as well as memory loss and other forms of brain damage.

In general, high artificial EMFs like these have been shown to disturb the human body's natural energetic field, leading to stress and fatigue as well as DNA changes and degenerative diseases like cancer.

WHAT TO DO ABOUT WI-FI HEALTH DANGERS

Because these EMFs are designed to flood entire homes and buildings, moving away from them is not an option. While they can be turned off when not in use, or replaced with hardwired connections, there are the neighboring signals to contend with.

SafeSpace products are designed to influence artificial EMFs, restoring coherence and balance to the fields around you by setting up a "corrective resonance." In other words, they alter the EMF, changing it from harmful to harmless.

THE SAFESPACE SOLUTION FOR WIFI HEALTH EFFECTS FROM ROUTERS

- **Understand what you're exposed to.** Pay attention to the technologies you use in your home and office, and the technologies in use around you.
- **Use SafeSpace's groundbreaking technologies** to escape the side-effects of wireless devices.

Our products interact with—and influence—artificial EMFs, restoring coherence and balance to the fields around you by setting up a "corrective resonance." Result: the dangers of EMFs are neutralized, and the field is harmonized.

SafeSpace Solutions are:

- Fast and simple to use
- Affordable
- Proven effective in independent EMF laboratory studies.

II. RESULT

1. CONTRIBUTES TO THE DEVELOPMENT OF INSOMNIA

Have you ever felt more awake after using Wi-Fi or even struggled to sleep through the night? Reports of these phenomena have been frequent and even prompted a study in 2007 that evaluated low-frequency modulation from cell phones and its impact on sleep. Participants were exposed to the electromagnetic signals from real phones or no signal from fake phones. Those exposed to the electromagnetic radiation had a significantly more difficult time falling asleep and changes in brainwave patterns were observed.

It's been suggested that sleeping near a phone, in a home with Wi-Fi, or in an apartment building with many Wi-Fi signals can create chronic sleep problems as the constant bombardment of Wi-Fi pollution interferes with falling asleep and sleep patterns. For many, sleep deprivation is just the start for larger problems. The development of depression and hypertension has also been linked to inadequate sleep.

2. DAMAGING TO CHILDHOOD DEVELOPMENT

Exposure to non-thermal radio frequency radiation from Wi-Fi and cellular phones can disrupt normal cellular development, especially fetal development. A 2004 animal study linked exposure to delayed kidney development. [4] These findings were supported by a 2009 Austrian study. In fact, the disruption of protein synthesis is so severe that authors specifically noted, "this cell property is especially pronounced in growing tissues, that is, in children and youth. Consequently, these population groups would be more susceptible than average to the described effects." In short, bathing the developmentally young in Wi-Fi increases their risk of developmental issues.

3. AFFECTS CELL GROWTH

When a group of Danish ninth graders experienced difficulty concentrating after sleeping with their cell phones by their head, they performed an experiment to test the effect of wireless Wi-Fi routers on garden cress. One set of plants was grown in a room free of wireless radiation; the other group grown next to two routers that released the same amount of radiation as a cell phone. The results? The plants nearest the radiation didn't grow.

4. DERAILED BRAIN FUNCTION

Just as the Danish high schoolers noticed problems with concentration, scientists have begun to look at the impact of 4G radiation on brain function. Using MRI technology, research performed just last year found that persons exposed to 4G radiation had several areas of reduced brain activity.

5. REDUCES BRAIN ACTIVITY IN FEMALES

A group of 30 healthy volunteers, 15 men and 15 women, were given a simple memory test. First, the entire group was tested without any exposure to Wi-Fi radiation — no problem. Then, they were exposed to 2.4 GHz Wi-Fi from a wireless access point for about 45 minutes. During that portion of the testing, brain activity was measured and the women had a noticeable change in brain activity and energy levels.

6. NEUTRALIZES SPERM

...Because we've known for a long time that the heat generated by laptops kills sperm. Well, now it turns out that heat isn't the only threat to a man's virility. Research has found exposure to Wi-Fi frequencies reduce sperm movement and cause DNA fragmentation. Both human and animal testing has confirmed that exposure negatively affects sperm.

7. MAY IMPACT FERTILITY

And, it's not just sperm. The results of an animal study suggest that some wireless frequencies may prevent egg implantation. During the study, mice exposed 2 hours a day for 45 days had significantly increased oxidative stress levels. The cellular damage and impact on DNA structure from exposure suggests a strong possibility of abnormal pregnancy or failure of the egg to implant.

The Karolinska Institute in Sweden released a warning in 2011, stating:

- “Pregnant women are cautioned to avoid using wireless devices themselves and distance themselves from other users,”
- “Current US [and Canada]...standards for radio frequency and microwave radiation from wireless technology are entirely inadequate,” and
- “Safety standards also ignore the developing fetus...”

8. PROVOKES CARDIAC STRESS

If you think your heart races when surrounded by wireless networks or 3G or LTE cell phones, it may not be in your head. A study involving 69 subjects reported that many of them experienced a real physical response to electromagnetic frequencies. Exactly what was the physical response? Increased heart rate — similar to the heart rate of an individual under stress.

9. LINKED TO CANCER?

This is extremely controversial but we can't ignore that plenty of animal models indicate that exposure to electromagnetic radiation increases the risk of tumor development. While human studies are rare, reports and case studies abound. One such case involves a young 21-year-old woman who developed breast cancer. What makes this case unique was that her family did not have a predisposition to breast cancer... and she developed the tumor right on the spot she carried her cell phone in her bra.

10. YOU CAN PROTECT YOURSELF

Although mainstream outlets may ignore the proven dangers, especially in the US and Canada, researchers have identified several methods that can offer a level of defense. First off, reduced melatonin seems to correspond with exposure. Thus, increasing melatonin through supplementation may help offset some of the effects. In animal tests, L-Carnitine provides antioxidant support for nutrients negatively affected by 2.4 GHz radiation.

III. CONCLUSIONS

Recently published research demonstrates that Wi-Fi exposure are not only well within recommended limits, but are only a small fraction (less than 1%) of what is received during typical use of cell phones. For this reason much of the research on possible effects of RF energy has been focused, and will likely continue to focus, on exposures from cell phones rather than the lower exposures associated with RF uses such as Wi-Fi. RF exposures to the public, including school children, from Wi-Fi are far lower than occur with cell phone use and to date there is no plausible evidence that would indicate current public exposures to Wi-Fi are causing adverse effects on health. Given the experience with other sources of non-ionizing radiation (e.g. power lines) that have been in use much longer than cell phones or Wi-Fi, it is unlikely that all controversies related to potential RF effects will be resolved even after decades of additional research.

ACKNOWLEDGEMENT

I am very much thankful to Dr. S. M. Bhuskute, Principal Bhawabhuti Mahavidyalaya, Amgaon, and Dr. B.Y. Kathane, HOD of Computer Science, Bhawabhuti Mahavidyalaya, Amgaon, for his valuable inputs, constant guidance and his extensive support an encouragement for this work.

REFERENCES

- I. Wireless Technology and Health Outcomes: Evidence and Review Dr. Ray Copes, Director of Environmental and Occupational Health, Ontario Agency for Health Protection and Promotion.
- II. <http://www.ncbi.nlm.nih.gov/pubmed/24162060>
- III. <http://www.safespaceprotection.com/electrostress-from-wireless-routers.aspx>
- IV. <http://www.globalhealingcenter.com/natural-health/10-shocking-facts-health-dangers-wifi/>
- V. Fields, R. Douglas. Mind Control by Cell Phone. May 7, 2008.

BIOGRAPHY



Mr. Sushilkumar E. Khaparde is Lecturer (CHB) in the Computer Science Department at Bhawabhuti Mahavidyalaya Amgaon, Distt. Gondia (MS), India. He received MCA. (Computer Science) from R.T.M. Nagpur University, His research interests include Data Communication Mediums and Computer Networks.