

Mobile phone radiation: A health hazard



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From bedraggled beggars on the streets to the suit clad brokers on Wall Street – the ubiquitous cell phone is everywhere, in every pocket irrespective of the rich / poor status of its owners. It is no longer an item of luxury albeit it's a must have today, a necessary evil. For technology comes with a price and the technology behind mobile phones is sure to make mankind pay a heavy price – the price of health and safety.

The recent furore created in the media worldwide over the possible hazards of mobile phone radiation has made us sit up and take note of the pros and cons of using the innocent looking mobile handset which had till date so surely and surreptitiously taken over our lives. We have learnt to live with the cacophony of ringtones emanating from every purse and every pocket, it has become a way of life. So much so that we run the risk of going into depression if we do not hear its tinkle.

Professionals are dependent on it, parents rely on it to keep a tab on their wards and their whereabouts, stay-at-home moms swear by it for the juicy gossip etc it helps to disseminate and the youth – well it is their life line without which all would come to a standstill. The increasing number of cell phone users is a jawdropping figure and so are the mobile phone towers coming up everywhere to cater to the needs of the various network services. These towers are scattering an invisible net of radiation risking the lives of all and sundry.

What is radiation one may ask. One can define radiation as energy travelling through space in the form of waves or particles. It occurs naturally and has always been around, we've evolved with it and we're bombarded with it in one form or another every day of our lives from various sources such as the earth, from space and even within our own bodies. Some experts suggest a little radiation is a good thing and it is used in medical science to combat and diagnose certain illnesses.

There are different types of radiation but let's concern ourselves with the radiation in mobile phones. The type of radiation emitted from mobile phones is electromagnetic radiation. It's present in mobiles because they use radio frequency (RF) waves to make and receive calls. The doses are considered to be very small as the emissions are low power (short range). Nevertheless, researchers say that there are ways in which one can reduce exposure to these waves.

Here the important question that arises is how much radiation is safe for us if at all it can be termed safe. Many of us keep our ears glued to the mobile phones 24 X 7 – by compulsion or by choice. How much damage has already been done already? Despite extensive research on the subject, there has been no conclusive evidence that using a mobile phone causes long term harmful effects in humans. Yet there are instances when many have complained of headaches, migraines even cancer due to the extensive use of mobile phones or radiation from mobile towers. The debate is on regarding the validity of such instances.

According to the group of 31 scientists from 14 countries meeting at the World Health Organization's International Agency for Research on Cancer (WHO/IARC) using a mobile phone may increase your risk for certain kinds of brain cancers. These researchers completed a review of the available scientific evidence on cell-phone radiation and brain tumors. The group, which is working on a research monograph classified cellphones in the carcinogenic category 2B, similar to chemicals like the pesticide DDT and gasoline engine exhaust. In layman's terms it means cell-phone radiation is "possibly carcinogenic" to human beings. "A review of the human evidence of epidemiological studies shows an increased risk of glioma and malignant types of brain cancer in association with wireless-phone use," stated Dr. Jonathan Samet, the chairperson of the IARC working group.

Other harm that it can cause apart from the above are the lowering of bone density, causing infertility in men, slightly raised blood pressure at the time of use, direct brain warming after prolonged use, which disperses as soon as you stop using your phone and causes no harm, mild fatigue after prolonged use etc. A recent study in Sweden suggested that acoustic neuromas (benign tumours of the acoustic nerve) are twice as common in mobile phone users than in those who do not use mobiles.

The pace of mobile phone technology is advancing by leaps and bounds luring the consumer with newest developments and technologies but sadly the same is not with the case of researches required into the study of potential harm that they can cause. Other studies have shown no adverse health effects associated with cell-phone use, but many researchers believe those results will change as time passes for future studies would show the long-term effects of cell-phone use by a significant number of people. Despite the mixed research results, many people are increasingly concerned about the possible health effects of frequent, long-term exposure to cell-phone radiation.

More serious and urgent research is needed before we can know for certain the effects they have on human health before the scenario worsens. Will it be too late before we take cumulative steps in this regard.

As for now it is confirm that mobiles do emit low doses of radiation and since we have become aware of it we need to take precautions when using them. Mobile towers are a common sight these days and that too in very close proximity of our living quarters. Is such proximity too close for comfort, probably not. Is the common man on the street aware o the health hazard that these towers are creating putting them at risk of catching unwanted ailments as dangerous as cancer? Certainly not.

As of now the health risk is considered to be very, very small, although some individuals may be more susceptible to radiation than others. Whilst it's true that excessive exposure to RF waves causes heating, the rumours that claim about being able to cook an egg using a mobile phone are entirely false.

In December 2007, Israeli researchers reported in the American Journal of Epidemiology that long-term cell-phone users who live in rural areas face a "consistently elevated risk" of developing tumors in the parotid gland compared with users who live in urban or suburban locations. The parotid gland is a salivary gland located just below a person's ear.

And in January 2008, the French Health Ministry issued a warning against excessive cell phone use, especially by children, despite the lack of conclusive scientific evidence linking cell-phone use with cancer or other serious health effects. In a public statement, the ministry said: "As the hypothesis of a risk cannot be entirely excluded, precaution is justified."

The common man on the street who are exposed to such radiation day in and day out is mostly unaware of the possible dangers of mobile usage. In such a situation we need to generate awareness and educate everyone on the safety measures that is to be taken to keep disasters in abeyance. Children especially should never be allowed to come in contact with the danger emitting gadget as their developing brains and bodies are far more susceptible to radiation effects than adults, absorbing radiation at three times an adult's rate. Moving your phone 20cm away from your head reduces radiation doses by about 98%. Use hands free headsets which dramatically reduce radiation emissions into the brain, indulge in short chats. There are certain devices available in the market that you can fit to your phone that reduce the emissions of radiation or allow the body to neutralise the effects, but beware of over-hyped promotions by these manufacturers using scare tactics to market their products.

Putting your cell phone on speaker mode, using a wireless Bluetooth headset or earpiece, which emit radiation at far lower levels than cell phones, carry your cell phone away from your body—in a purse, briefcase or computer bag—instead of your pocket where it is pressed up against you. Send text messages as then you hold your phone away from your body, and far away from your head, which reduces your exposure to radiation.

When your cell phone has a weak signal, it has to work harder to transmit and receive, and that equals higher bursts of radiation. You face the same problem when you are moving quickly—riding in a car, bus or train, for example—because your cell phone is forced to repeatedly emit new bursts of radiation as it connects to different cell towers along your route. Therefore finish your conversation by staying put at the area where the signal is strongest. Most cell phones emit the most radiation when they first connect with the cell tower. One way to reduce your exposure to cell-phone radiation is to wait until your call has been connected before you put the phone to your ear. These are simple ways that is in our means to avoid radiation to some extent.

The world is waking up to the monster i.e, mobile phone radiation but is our country getting any wiser? India is said to have the worst cellular tower radiation norms in the world. However, steps has been taken and new guidelines are being implemented to curb the hazards. According to new rules cellular towers will have to reduce the amount of radiation they emit to 1/10th of the current level. But the picture seems bleak as given that most countries in the world have radiation levels 1000 to 10,000 times lesser than India.

An IIT Bombay study done two years ago concluded that people living within 10 meters of cell phone towers receive 10,000 to 1 crore times more radiation than required for mobile signal strength. With the government ordering radiation from cell phone towers to be cut down to 1/10th of the existing level, will this be sufficient to prevent health hazards?

HOD Electrical Engineering, IIT Bombay, Professor Girish Kumar said, "It should have been reduced 1 by 1000 to even 1 by 10,000 because the health problems happen at even 1 by 10,000 level. Health problems do happen in 5 to 7 years, at 1 by 1000. So we have to take a strict health based guidelines not convenience based guidelines."

Current radiation limit in India is so high that within two years, the health of one crore Indians could be affected, IIT Bombay research found. Clearly even with these new guidelines, the Indians are not in the safe zone. Most countries in world have 1/100th to 1/1000th permissible levels of mobile tower radiation.

Statistics reveal that people of our country is at a high risk of sustaining damages due to being exposed to radiation by mobile phones and we are in a catch 22 situation even after the so called new norms. But being a third world country probaly our lives are not as precious as those of developed countries. What do we do now? Should we hit the streets demanding protection and safety from the labyrinth of mobile phones or should we take a backward leap and switch to the landline era of phones discarding the technologically advanced but dangerous cell phones? For as far as health is concerned I presume it is better to be safe than sorry.

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BY RITUPARNA GOSWAMI PANDE

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