

# Harmful effects of mobile phones on the body



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## MOBILE PHONE HARMNESS ON HUMAN BODY

Abstract:-

*Mobile Phone usage has been rapidly spread globally and to provide proper coverage (signal strength), numbers of cell towers are also increasing worldwide generating a public concern as to whether frequent utilization of such devices is unsafe. Effects of Mobile Tower Radiations are seen in many countries. So, in this paper, we have discussed Mobile Tower Radiations Harmness on Human Health.*

*Keywords: – Mobile Tower Radiations, Electromagnetic Radiations, Signal Strength, Mobile Phone*

I. Introduction:-

Forty years ago today, Motorola engineer martin cooper-credited as the inventor of the cell phone made the world's first public cell from a mobile phone. In 1984, the U. S. federal communications commission approved Motorola's Dyna Tac phone for public use. In 1993, Bellsouth and IBM announced their creation of the Simon personal Communicator phone, touched as the world's first smart phone. In 2002, the first phones with built-in cameras became publicly available, including the Nokia 7650 and the Sanyo SPC-5300. In January 2007, Apple launched its first phone. The company into one handled devices, a mobile phone, an i-pod and a wireless communication device.

II. Mobile Technology for increased Productivity and profitability:-

The demand for access to business information and applications through mobile technologies such as the Apple i-phone and i-pad device running google Android and windows 7 mobile or using RIM BlackBerry. Mobile technology allows people to use company data and resources without being tied to a single location. Mobile IT Device can also change the way your company does business new technologies lead to new way of working and new products and services that can be offered to your customers. They can make your team more efficient, more creative and more valuable to your clients.

Mobile Technology can be used to increase their productivity and lead to increased profitability. Below are some of the key areas in which mobile technology can be useful.

1. Networking/ communication
2. Development
3. Marketing
4. Mobile ticketing
5. Mobile vouchers and coupons and loyalty cards
6. Content purchase and delivery
7. Location based services
8. Information services
9. Mobile Banking

Mobile or cellular phones are now an integral part of modern telecommunications. In many

countries, over half the population use mobile phones and the market is growing rapidly. At the

end of 2009, there were an estimated 4.6 billion subscriptions globally. In some parts of the world, mobile phones are the most reliable or the only phones available. Mobile phones communicate by transmitting radio waves through a network of fixed antennas called base stations. Radiofrequency waves are electromagnetic fields, and unlike ionizing radiation such as X-rays or gamma rays, can neither break chemical bonds nor cause ionization in the human body.

Cell phones and cell phone towers send signals using radio frequency (RF) energy, or radiation, just like radio, television, pagers and other wireless communication devices. Many people have asked whether the RF energy from cell phones and cell phone towers is safe.

III. Radio Frequency Energy: - RF energy is another name for radio waves. Probably the most important use for RF energy is for communication services. Radio and TV broadcasting, cell phones, pagers, cordless phones, and satellite communications are just a few of the many communication uses of RF radiation. A microwave oven is an example of a non-communication use of RF radiation. Radio frequency energy is a form of electromagnetic radiation. Electromagnetic radiation can be categorized into two types: ionizing (e. g., x-rays, radon, and cosmic rays) and non-ionizing (e. g. radio frequency and extremely low-frequency or power frequency). The potential health effects of non-ionizing radiation from radar, microwave ovens, and other sources, there is currently no consistent evidence that non-ionizing

radiation increases cancer risk. Exposure to ionizing radiation, such as from radiation therapy, is known to increase the risk of Cancer.

#### IV. Effects of radiation energy of mobile phones on human health:

##### Thermal effects:-

One well-understood effect of microwave radiation is dielectric heating, in which any dielectric

material (such as living tissue) is heated by rotations of polar molecules induced by the electromagnetic field. In the case of a person using a cell phone, most of the heating effect will occur at the surface of the head, causing its temperature to increase by a fraction of a degree. In this case, the level of temperature increase is an order of magnitude less than that obtained during the exposure of the head to direct sunlight. The brain's blood circulation is capable of disposing of excess heat by increasing local blood flow.

##### Non-Thermal effects:-

An effect which can only be explained in terms of mechanisms other than increased molecular motion (i. e. heating), or occurs at absorbed power levels so low, that a thermal mechanism seems unlikely, or displays so unexpected a dependence upon some experimental variable that it is difficult to see how heating could be the cause.

##### Cancer:

Studies on cancer in relation to mobile telephony have focused on intracranial tumors because deposition of energy from RF fields from a mobile phone is mainly within a small area of the skull near the handset. When whole body exposure is considered, as in some occupational and environmental studies, also other forms of cancer have been investigated.

#### V. Do mobile phones harm brain tissues and cause cancer?

- There is an argument that mobile phone causes change in the structure of chemicals of cells. Also, they are accused of causing cancer. The radiation from the mobile phones has been villainized by those who warn that the excess usage of mobile phones can damage brain cells. The heat produced by the radiation from mobile phones has been found to change the chemical structure of chemicals synthesized in small organisms like worms. But many scientists are of opinion that the radiation cannot be harmful to human tissues. A recent report says that so far there is no evidence of any adverse effect by mobile phone radiations, but they added that new researches have to be conducted.
- Recently, I have observed some serious effects of mobile phone radiation on brain. In brain, hippocampus is understood to be responsible for learning and memory. In order to confirm this, we have carried out investigations on the whole brain, hippocampus, and remaining brain. This was undertaken to determine the possible site of the electromagnetic field (EMF) bio-interaction. We have concluded that these radiations may damage our nervous system, especially memory. This has been done by protein kinase C activity and DNA strand break, which has been affected by mobile phone radiations.

- Anyway it is better to prevent kids from using mobile phones excessively because their brain tissues are more vulnerable to chemical changes and cancer if exposed to radiation.
- When you try to call someone through mobile phone, do not put your mobile closer to your ears until the recipient answers. Because directly after dialing the mobile phone, it would use its maximum signaling power, which is 2 watts which is equal to 33 dbi. Please be careful.  
Message as received (Save your brain. Please use your left ear while using cell (mobile), because if you use the right one, it will affect the brain directly. This is a true fact from many researches performed by the medical teams around the world.

#### VI. Advantages and Disadvantages of Mobile Phone Effect:

As time passes by technology are growing faster and move faster. The most important and common part of technology in our life is mobile phone technology. We bring mobile phone with us in everywhere that we go and use it on a daily basis. It is being the part and parcel of our daily life. Mobile phone have been around for quite some time, but as time goes on, mobile phones continuous to gain many features. A mobile phone started out as simple device that had only numbers, and most people used them for emergencies only. Nowadays, cell phones have many features such as phone calls, text messaging, taking pictures accessing the web, using calculator etc as many accessories. People become addicted in cell phone because they are getting many facilities by using it. For example whenever they go outside they can take the phone with them because of its size, networking range, a full charge battery, essay connection etc. There is no doubt about the

benefits of mobile phones. Mobile phones have so many advantages but there have some disadvantages too. It has become a vital element for every person but nowadays it has also becoming an addiction to the young generation. If we talking about Bangladesh, nine out of ten young people in the town area, have own a mobile phone. They use it in various purposes. Their attraction of mobile phone is increasing day by day. Medical science says that the radiation of mobile phone is too bad for human health.

In 1995 mobile phone has introduced to Bangladeshi people. The first mobile service provider

company was City cell. Then Grameenphone, Aktel, Banglalink, Teletalk, and Warid which is being named as Airtel an Indian telecom company who has also started their business in Bangladesh.

In the arena of communication mobile has becoming the latest fashion and also the most essential means of communication. These mobile phones let us enjoy all the comforts within a single device.

VII. A few tips on how to avoid radiation from cell phones:

- At your workplace or office, there should be strict screening of calls.
- Use voicemail regularly when working on something from which you do not want to be disturbed. When responding back, it helps to collect the thoughts and speak just how much is required.
- People who attend a lot of teleconferences should use a wireless headphone cum mike. It is easier than the headset on the ears which



one has to keep pressed to the ear, especially since the meetings may go on for hours.

- At home, turn on the loudspeaker, so there is not much of a problem for the ears and brain.
- While traveling, use earphones.
- Keep mobile phones a few feet away from your body while sleeping.
- Do not talk for too long on your cell phone. Short calls will avoid unwanted radiation and also you will save money on calls.

#### VIII. Result:-

Analyses shows that mobile radiations effect human brain and GSM operated mobile phones has the higher effect on brain activity as compared to CDMA operated mobile phones. Globalization is the new mantra. In this age, it is very difficult not to have technology. But as shown in this study, with every technology invented to facilitate human beings, there come certain hazards. Electromagnetic radiation is everywhere. More and more wireless communication services are expected, so is the artificial electromagnetic radiation. It seems that there is no way to reverse this trend. Scientists and engineers must develop better and safer wireless systems and devices. Smaller cell size, better base station antennas and other more advanced technologies will allow future cell phones to radiate much lower power and make technology a real boon.

#### Conclusion:

The use of cell phone is increasing tremendously day-by-day but most of the people (who use cellular phone) have no knowledge how the cell phones

impact on human health. It is almost clear from the research that the radiation from cell phone is responsible for many diseases like brain tumor, headaches, short-term memory loss, different types of heart diseases etc.

In the presence of various RF sources, including cell phone handsets and broadcast antennas which

contribute the overall environmental exposure has become a great concern about safety of this new

technology and as well as human health. However we should contribute more efforts to transform

mobile radio communication to an efficient, secure and convenient system useful for the welfare and positive advancement global society and for this the Government should take necessary steps for the mobile industry with proper regulation.