

Adverse Effect of Cell Phone on Human Health

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ABSTRACT

Cell phones are a relatively novel and evolving technology. Mobile communication is now essentially ruling in our daily activities through better connectivity and intelligent, smart phone services. While the potential benefits of this technology continue to emerge, so do the potential health risks. Smart phones are a class of mobile phones and of multi-purpose mobile computing devices. They are distinguished from feature phones by their stronger hardware capabilities and extensive mobile operating systems, which facilitate wider software, internet (including web browsing over mobile broadband), and multimedia functionality (including music, video, cameras, and gaming), alongside core phone functions such as voice calls and text messaging. Cell phone uses radiofrequency (RF) radiation. Various studies indicate that the RF radiation emitted from a cell phone can be extremely harmful, causing genetic damage, fertility problems, tumors, memory loss, increased blood pressure and weakening of immune systems.

Keywords: Adverse, effect, cell phone, human, health

INTRODUCTION

Before 2 decades the phones were used by few people across the globe and the people were using only in case of emergency and not for 24hrs a day. But in the last 2 decades there is a tremendous advancement in the network technologies and Internet facilities [1]. The scientists and innovators jointly start to improve the mobile technologies to make one unique device which can be used to send and receive audio or video message or to use internet facilities or to perform any computational work at a very nominal cost. Although the mobile phone makes our life smooth but it has many evil effects also. In the present study the author will mainly focus on negative side of using cell phone [2]. The cell phone might be affecting one's thought process, behavior and attitudes in a more negative and faster way. It does that so finely and secretly that it becomes difficult to identify and cope up with. It is not an exaggeration to say that cell phones have the power to influence most important decision making processes and choices. It changes personality; it changes

the behavior of a person. Cell Phone addiction is a well-recognized condition, known to cause trauma and high level anxiety pains [3] [4]. Addiction to remain online, compulsion to be active on social sites leads to low productivity and impacts the emotional health of the person. Long time effects may be worse, permanent and affecting the more subconscious layer of behavior. So the suggestion is to keep phone away for a while and enjoy all the other good things life has to offer [5].

Impact/Health Problems Associated With Cell Phones

Presently, cell phones are being used everywhere because these devices do not use the physical cable/wire that is demanded for the communications purposes. Their demand for the electromagnetic radiation for receiving and transferring the data in the air; either it is a network or a sound data. These mobile phone devices give off harmful radiations which effects to the human health because such type of radiations are available everywhere and their existence

cannot be felt. These radiations also penetrate in the body and they affect the cell structure and the DNA [6] [7] [8]. The different types of radiations are being used for connecting the mobile phone devices with each other and each type of radiation having own frequency and wavelength, the frequency mostly ranges from 3 kHz to 300 GHz. There are several cases of mobile phone devices such as cell phones, wireless router, tablet PC, cell telephone tower, wireless hand free, Bluetooth device, audio player, laptop connected to the wireless router (Wi-Fi) [9] [10]. These devices give off harmful radiations which can contribute too many harmful diseases such as Brain Tumor, Male Infertility, and Ear Hearing Impairment, effect on the fetus, Parkinson's disease, asthma, Heart trouble, insomnia, high blood pressure, leukemia, birth defects, Immune system, and rheumatoid arthritis. Radiations are also causes of some symptoms which are: headache, sleep disruption, tiredness, and DNA damage can also happen [11].

Male infertility: Cell phone radiation may negatively affect sperm quality in men by decreasing the semen volume, sperm concentration, sperm count, motility, and viability, thus impairing male fertility [12]. This should be supported by mass media to raise awareness among people regarding the possible health effects of RF emissions from mobile phones and to minimize its exposure [13].

Tumors/Cancer: Several studies among sizeable populations have found a doubling of the risk of some brain tumors after 10 or more years' mobile phone use for about half an hour a day. Studies indicate a possible link between mobile phone use and tumors of the parotid gland (a salivary gland in the region normally highly exposed to radiation during phone use) [14]. The World Health Organization's International Agency for Research on Cancer (IARC) has classified the radiation emitted by mobile phones as "possibly carcinogenic to humans [15].

Genetic damage: Laboratory studies from different research groups suggest that even after short periods of exposure to phone radiation, DNA strands can be broken and there are effects on gene

expression. Phone radiation is capable of disturbing the DNA repair mechanism, and this can continue for several hours after the phone use [16].

Increases blood pressure: Researchers found talking on a mobile triggers significant increases in systolic blood pressure that corresponds to the "surge" that occurs with each heartbeat [17] [18] [19] [20]. This is the higher number in a reading which doctors pay most attention to when assessing a patient's risk of cardiovascular disease, etc.

Ways to Reduce the Health Risks from Cell Phone Radiation

1. Get a hands-free set and use it. Making calls via an earpiece and microphone will drastically reduce the radiation you absorb while talking. However, it should be a wired setup - Bluetooth headpieces also use radio waves to transmit data, which could be a particular problem if you're wearing one the whole time [21].
2. Talk on speakerphone. Yes it's antisocial, but if nobody's around, even holding your phone a small distance away from your body means substantially less radiation - two inches cuts your exposure by a factor of four. Most handsets will actually advise you to do this, though it's probably buried in the fine print [22]. The iPhone 4's manual suggests you should keep it 15mm away from your body while *any* data is being transmitted - and that includes when it's in your pocket [23].
3. Talk less. If mobiles are dangerous, it won't be from any one-off dose of radiation but from the cumulative effect of using it every day, year in, year out. Using text, email or other messaging services instead of making that call might be the simplest way of reducing your exposure.
4. Don't sleep with your phone inches away. The same general rules apply as for speakerphone calls: putting your mobile even a small distance further away will

have a substantial effect on any radiation.

5. Stay in high-reception areas. The lower your phone's signal, the harder it has to work to connect to the nearest tower - so fewer bars on your handset means more radiation while talking. Avoiding conversations in lifts, basements and tunnels will limit your exposure. Avoid using your cell phone when the signal is weak or when moving at high speed, such as in a car or train, as this

automatically increases power to a maximum as the phone repeatedly attempts to connect to a new relay antenna.

6. Switch sides regularly while communicating on your cell phone to spread out your exposure. Before putting your cell phone to the ear, wait until your correspondent has picked up. This limits the power of the electromagnetic field emitted near your ear and the duration of your exposure.

CONCLUSION

Cell phones have brought on a whole new age of technology and they do make life more convenient in terms of communication. However, the side effects of cell phones and the distractions have generated many dangerous and unhealthy

situations, like male infertility, increase blood pressure, genetic damage, cancer/tumor etc. It is advised that one should keep away from the use of Mobile phone or decrease its usage as low as possible.

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