

Radiation of cell phones essay sample

[Environment](#), [Disaster](#)



Cell phone use has effects and impacts in the long run when health and risks are concerned. Studies have shown that there are effects that are associated with the use of cell phones. There is some amount of electromagnetic radiations that are emitted by all cell phones. This is a point of concern with the way in which mobile phones are used with a close proximity to the head while they are being used. The main point of contention is the amount of radiation that can be considered to be safe and that one which can be considered to be harmful to the users and if there are any identified long term effects of radiation to the users of mobile phones.

Radiation comes in two categories. There is the ionization radiation and non-ionizing radiation. Ionization radiation is the type of radiation which has the capability to strip the atoms and molecules from the surface of the tissues and change the chemical reactions that take place in the body of the users. The two forms of ionizing radiation are gamma and x-ray. X-rays and Gamma rays are dangerous and that is the reason why every time there is some X-ray that is being undertaken, protective garments (lead vest). On the other hand, non-ionizing radiation is safe as it causes small heat which does not bring much harm to the body. The heat that is caused by this non-ionizing radiation does not cause any long-term effect to the tissues. Examples of radiation in this category are the radio-frequency energy, visible light and micro-wave radiation. All these do not cause any harm to the body.

According to the FCC, radiation can damage the cell tissues if there is a high exposure of radio frequency radiation. Radio frequency radiation has the potential to bring heat to the human tissue. Just like the microwave is used to heat food, radio frequency can heat the human tissue as the body does

not have the mechanisms to dissipate excessive heat that is exposed to. One area that is highly vulnerable is the eyes because there is no flow of blood that is experienced in the eyes.

Another point of concern that is concerned with non-ionizing radiation of the cell phones is that the effects it will bring in the long run. Although there are no immediate effects that are caused by non-ionizing radiation, there is ongoing research in which the long-term effects of cell phone non-ionization effects are being conducted. This is an important point of concern in the current times given the fact that there are more people who use mobile phones than it was in the past years. In 1994, there were only 14 million mobile phone users in the United States. This number has substantially grown to about 400 million in the year 2010. All these people are exposed to risk.

Figure 1: Retrieved from:

The common long-term effects of radiation that is caused by cell phone use include cancer, tumors of the brain, fatigue, and headaches among others. Studies have come up with different results. Other studies show that there is a high likelihood that cancer is caused by cell phone radiation while other studies claim that this is not the case.

The rise of the temperature on the surface of the brain caused by radio frequency heat from the mobile phone has gone up to as high as 0.3 degrees. There is some biological significance of this rise in temperature. The fluctuation of the brain temperature is said to be by about one degree. This fluctuation is said to bring damage if it goes beyond five degrees. There are many studies that have been carried out in various countries to try to

find out the other effects of cell phone radiation apart from radiation. With the results that have been found, it has been hard to conclude that there are effects that are associated with cell phone use. Cell phone heating could cause temporal changes to the functions of the cells. These functions include the functions that genes have the activation of the proteins and the internal communication of the cells. The cause of these changes has not been established. The only thing that has been found out is that this is not as a result of excessive heating of the tissue.

Radio waves may increase the degree of permeability of the blood - brain barrier. This barrier is tasked with regulating the passage of the materials between the bloodstream and the brain cells. Changes in this process are minimal and disappear very fast when radiation stops. This could be a change that is caused by microscopic heating. This occurs because of the fluctuations that are physiological. These fluctuations are not known to be harmful. There are studies that have been carried out trying to show the relation between cell phone use and brain tumors. It has been found out that people, who have used cell phones for a long period of time, usually over ten years, are likely to have had tumors in their brains. There are errors that come to these studies in that it is difficult to undertake the exact duration that the mobile calls that was made then.

Given the fact that it takes a long time to get cancer, and mobile phone use has only been actively used for the last ten years. It has been argued that the effects of radiation from mobile phone use will be realized in the years to come.

What has been stated in this paper is the radiation that comes from a mobile

phone. There is also electromagnetic radiation that comes from the tower-based antennae. These electromagnetic radio waves have been linked to brain tumors and genetic distortions. Although this is the case, there is misleading information that the use of cell phones is completely safe for the billions of mobile phone users. The initial entry of cell phones to the market was done without testing the devices. They were not cleared and certified to be safe for public use. It has been found out that cell phone use causes damage to the DNA and impaired the repair that is carried out to DNA. Cell phone radiation has also been found to interfere with cardiac pacemakers. It has also been found to cause attention disorder.

Figure 2: Retrieved from:

Every time a cell phone is switched on, there is emission of electromagnetic radiation. Even if the cell phone has been put in standby mode, or whichever place in which it is put, there are radiations that are emitted. All cell phones that are sold from the United States have measurement of microwave energy that the cell phone can emit.

References

Hitchcock, T. (2004). Radio-Frequency and microwave radiation. New York: AIHA.

Lin, J. (2009). Advances in electromagnetic fields in living systems. New York: Springer.

Volkow, N., Tomasi, T., Wang, G.-J., Waska, P., Fowler, J., Telang, F., et al. (2011). Effects of Cell Phone Radiofrequency Signal Exposure on Brain Glucose Metabolism. *The Journal of American Medical Association*, 305(8), 34-56.

Weisbrot, D., Lin, H., & Blank, M. (2003). Effects of mobile phone radiation on reproduction and development in *Drosophila melanogaster*. *Journal of Cellular Biochemistry*, 89(1), 48-55.