

Impact of Mobile Radiation

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INTRODUCTION

Mobile is an inseparable part of our life. We are completely dependent on our mobile phones and everyone has it, even school children. Mobile phone radiation and health concerns have been raised, especially following the enormous increase in the use of wireless mobile telephony throughout the world. This is because cell phones use Electromagnetic radiation in the Microwave range. These concerns have induced a large body of research in animals and in humans. The mobile phone system is referred to as "cellular telephone system" because the coverage area is divided into "cells" each of which has a base station antenna. Cell phones use Electromagnetic radiation in the Microwave range around 2.5 GHz range.

OBJECTIVES OF THE STUDY

- ❖ To identify the mobile radiation and its impact.
- ❖ To find out factors which create mobile radiation.
- ❖ To give suggestions for the protection and betterment of mobile usage.

MOBILE RADIATION AND ITS IMPACT ON HUMAN BEING

Mobile radiations give lot of impact on human being. The following are the important impacts. They are

CANCER

There is no strong or consistent evidence that mobile phone use increases the risk of getting brain cancer or other head tumors. The United States National Cancer

Institute points out that "Radiofrequency energy, unlike ionizing radiation, does not cause DNA damage that can lead to cancer. Its only consistently observed biological effect in humans is tissue heating. In animal studies, it has not been found to cause cancer or to enhance the cancer-causing effects of known chemical carcinogens." The majority of human studies have failed to find a link between cell phone use and cancer. In 2011 a World Health Organization working group classified cell phone use as "possibly carcinogenic to humans". The CDC states that no scientific evidence definitively answers whether cell phone use causes cancer.

In a 2018 statement, the FDA said that "the current safety limits are set to include a 50-fold safety margin from observed effects of radiofrequency energy exposure". An analysis of an "eagerly anticipated" study using rats and mice by the National Toxicology Program indicates that due to such issues as the inconsistent appearances of "signals for harm" within and across species and the increased chances of false positives due to the multiplicity of tests, the positive results seen are more likely due to random chance. The full results of the study were released in February 2018.

MALE FERTILITY

A decline in male sperm quality has been observed over several decades. Studies on the impact of mobile radiation on male fertility are conflicting, and the effects of the radiofrequency electromagnetic radiation (RF-EMR) emitted by these

devices on the reproductive systems are currently under active debate. A 2012 review concluded that "together, the results of these studies have shown that RF-EMR decreases sperm count and motility and increases oxidative stress". A 2017 study of 153 men that attended an academic fertility clinic in Boston, Massachusetts found that self-reported mobile phone use was not related to semen quality, and that carrying a mobile phone in the pants pocket was not related to semen quality.

ELECTROMAGNETIC HYPERSENSITIVITY

Some users of mobile phones and similar devices have reported feeling various non-specific symptoms during and after use. Studies have failed to link any of these symptoms to electromagnetic exposure. In addition, EHS is not a recognised medical diagnosis.

GLUCOSE METABOLISM

According to the National Cancer Institute, two small studies exploring whether and how cell phone radiation affects brain glucose metabolism showed inconsistent results.

OTHER HEALTH EFFECTS

Scientists have reported other health effects of using mobile phones including changes in brain activity, reaction times, and sleep patterns. These effects are minor and have no apparent health significance. More studies are underway to try to confirm these findings.

ELECTROMAGNETIC INTERFERENCE

When mobile phones are used very close to some medical devices (including pacemakers, implantable defibrillators, and certain hearing aids) there is the possibility of causing interference with their operation. The risk is much reduced for 3G phones and newer equipment. There is also the potential of interference between mobile phones signals and aircraft electronics.

Some countries have licensed mobile phone use on aircraft during flight using systems that control the phone output power.

TRAFFIC ACCIDENTS

Research has shown an increased risk of traffic accidents, some 3-4 times greater chance of an accident, when mobile phones (either handheld or with a "hands-free" kit) are used while driving due to distraction.

SUGGESTIONS

- ❖ Sending text message is better than speaking over mobile.
- ❖ Do not use mobile phones more than 10 minutes continuously. During conversation, mobile phone will release bursts of energy to keep link with the strongest base station.
- ❖ Try to use the mobile phone maximum one hour per day. If you want to use it more than this, use Bluetooth or Head phones.
- ❖ Keep mobile phone away from bed while sleeping. It may affect your sleep physiology.
- ❖ Do not give mobile phone to children. Radiation hazard is more in children than adults.
- ❖ Do not attend mobile phone while driving or operating machinery. It will increase the cognitive load and reduce the reaction time leading to accidents.
- ❖ Do not use mobile phone near petrol outlet and LPG cylinder. The static electricity in the atmosphere may explode by accepting radiation from the mobile phone. This may cause fire.
- ❖ Do not use mobile phone when it is connected to charger. Electricity problems may cause shock hazards.
- ❖ Do not use mobile phone when there is lightning.

- ❖ Do not over charge, mobile battery. It may reduce its life. Charge battery only when it's charge level reduces below 40 percent.
- ❖ Do not send unwanted images or texts through sms or mms. It is an offence.
- ❖ Use head phone and keep it away from human body.
- ❖ Use left ear for mobile communication.

CONCLUSION

Mobile phone is an excellent communication device. Mobile radiation defects occur only if it is used for prolonged time. Controlled use for communication purpose is always safe. Mobile phones emitting radiation below 2 watts is completely safe. Still, precautionary measures are always good, even though there are fewer case studies in this matter. Try to consider mobile phone as a communication device and not an entertainment device. Even if you are not talking, cell phone is emitting strong signals to keep link with the base station having strongest signal. It is better to use land line phone and have mobile with us only when it is needed

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