Cell Phone Radiations: Hazards and Solutions: A Review

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Abstract

In the contemporary era, human has started progressing in almost every field and has made his life extraordinarily developed. But along with it, hazardous effects caused by the modern technology have become matter of a concern. Where modernization has enabled us to move parallel with the technology, its side effects cannot be put aside. Such a tension diverging subject is mobile phones and its harmful radiations. This issue has not only emerged in India but has attained a devil form across the globe. Not only mobile phones but the daily use objects like Wi-Fi, Bluetooth, wireless keyboard, cordless, digital toys and walkie-talkie are also contained in this category. The present review summarizes the reports on dangerous impacts of cell phone usage and remedies to overcome them.

Introduction

Indian population has touched around 1.5 billion and if we trust the data then more than 5 lakh mobile towers have been set up in our country. In spite of this, more than 950 million people in our country use cell phones (Merhi, 2012). Although mobiles have tied us with every modern object of this era and we are capable to keep ourselves updated with almost every happenings across the world but its dark side is hard to be ignored as it has deteriorated our environment at a significant level. Hence, along with revealing the benefits, exploration of its harmful effects is equally mandatory. This short review is an effort to filter out
the essence of reports accessible on account of hazards of cell phone usage and its impact on living beings along with certain remedial measures.

**Health Hazards**

According to scientific discoveries, cell phone radiations contain microwave frequency of 900-1800 mega Hertz in electromagnetic radiations emitted by the sun. High intensity of such radiations impacts a hazardous effect on living beings (Zalataet al., 2015). Moreover, microwave radiations can be divided into thermal and non-thermal radiations and in both the forms, these radiations have been revealed to be carcinogenic (Khuranaet al., 2009).

In our daily lives, we come in contact with these radiations by two ways either naturally or unnaturally. In Natural way, we get energy from the sun which we absorb from outside. But in unnatural way, heat is created from our body which is even more dangerous. Microwaves give birth to such heat while attending a call which increases the inner temperature of our ear lobe when we use mobile for a long period of time (Gandhi et al., 2012). Usually, 20 minutes talk time results into 1°C temperature of our ear lobes. Besides this, when we use multiple SIM carrying phone, frequency of microwaves further increases which proves more fatal for our body. As per a recent scientific study, it has been revealed that the probability of microwave significantly enhances when we simultaneously use other mobile applications while using a mobile like Bluetooth, WiFi, cellular data etc (Kesari et al., 2013).

On a global scale, maximum mobile companies have specified their specific absorption rate (SAR) value. In USA, SAR value has been finalized as 1.6 kg (watt per kilogram) which doubles after every six minutes talk time. According to it, a person should not talk more than 18-24 minutes on cell phone. As per the guidelines of San Francisco, with effect from July, 2010, it is mandatory for each mobile company to reveal its SAR value (Fejes et al., 2009).

**Cell Phones: A curse for human beings**

Different organizations have experimented on hazardous effects of cell phone radiations and its dark sides have been emerged out. According to World Health Organization (WHO), microwave radiations borne out
from cell phones impose dangerous threats on nervous system. In the beginning, early fatigue, consistent headache, sleeping sickness, memory loss like symptoms (Zhao, 2007; Kesari et al., 2013) arise which further lead to serious threats like mental problems (Tyagi et al., 2011), cancer (Khurana et al., 2009), lack of immunity, loss of sperm count (Deepinder et al., 2007; Desai et al., 2009) and DNA damage (Merhi, 2012; Zalata et al., 2015) etc.

Apart from this, excessive use of cell phone can cause mental sickness in children (Gandhi et al., 2012). This is because their brain’s skin is comparatively thinner which can be easily diluted by the harmful radiations. Along with it, in pregnant women, it has several dangerous effects which may lead to abnormal foetus and sometimes miscarriage (Fejes et al., 2009). Cell phone radiations also induce bad impact on pupil of our eyes and even vision as well (Zhao, 2007).

Solutions

It is not like we should not use cell phones but keeping in mind certain moral responsibilities, we can escape ourselves from its bad impacts:

1. Do not use mobile phone more than 20-30 minutes a day.
2. Avoid talking on phone and adopting text messages instead.
3. To use earphones or speaker mode and keep cell phone at 15-20 inches minimum distance.
5. Do not keep cellphone constantly in hand or in pocket.
6. Switch off the cellular data and WiFi etc. while not in use.
8. Keep battery of cell phone in between 10 to 90 percent. Do not under charge or over charge it.
9. Keep mobile phone at a distance of 5-6 feet while sleeping.

Keeping in mind the above mentioned precautions, we can not only protect ourselves but can save our surroundings and forthcoming generations from hazards of dangerous radiations.
Conclusion

To conclude, although there are endless hazards of cell phone radiations which pose a serious threat to individuals of all age groups, but by adopting certain precautionary measures while using cell phones can curb their side effects to a great extent. Also, having a deep understanding of pros and cons of this issue can also significantly contribute to uproot the harmful effects of excessive use of mobiles. Hence, it becomes our moral duty to disperse in depth knowledge of both sides of the coin in order to keep ourselves healthy, disease free and tech-savvy.

References


