



Impact of Mobile Phones on Society

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Abstract— Nowadays, Mobile phones turn out to be a major part of our life due to its advanced features. It is difficult to avoid such new technologies, while we all know the effect of mobile phone on our society and also on environment. This paper will address people what is the impact of using mobile phones and make people to be aware about proper handling of such new technologies. In this paper we are going to provide some alternative solutions for proper handling of Mobile phones. We are going to focus on the points such as people's health related issues and behaviours etc. There are three major dimensions which are related with impacts of Mobile computing: health, addiction and behaviour.

Keywords— Radio Frequency, Specific Absorption Rates, Mobile Phone, Wireless Technology

I. INTRODUCTION

In recent years the rapid increase in the use of mobile phones has been accompanied by a significant amount of research into potential health effects from high exposure to radiofrequency (RF) energy emitted by these devices. The people should know about any potential health consequences from multiple, long-term, low-intensity RF exposure as opposed to most of the present data that evaluates acute effects on healthy adults during short exposures to RF fields. For instance, measuring the amount of RF energy received by juveniles, children, pregnant women, and fetuses from mobile devices and RF base station antennas could help define exposure ranges for various populations. Although it is unknown whether children are more susceptible to RF exposure, they may be at increased risk because of their developing organ and tissue systems. Additionally, Specific Absorption Rates (SAR) for children are likely to be higher than for adults, because exposure wavelength is closer to the whole-body resonance frequency for shorter individuals. The current generation of children will also experience a longer period of RF field exposure from mobile phone use than adults, because they will most likely start using them at an early age. The report notes that several surveys have shown a steep increase in mobile phone ownership among children, but virtually no relevant studies of human populations at present examine health effects in this population. The evolving types of antennas for hand-held mobile devices also should be analyzed for the amount of RF energy they deliver to different parts of the body so the data would be available for use in future studies, the committee said. Studies to understand the effects of RF energy irradiation from cell phone antennas on the human head have already been conducted. Also, wireless technology is now used in laptop computers and hand-held texting and Web-surfing devices, in which the antennas are close to other parts of the body.

Mobile technology is exactly what the name implies - technology that is portable. Examples of Mobile IT devices include:

- laptop, tablets and notebook computers
- 'Smart phones'
- Global Positioning System (GPS) devices
- wireless debit/credit card payment terminals

Mobile devices can be enabled to use a variety of communications technologies such as:

- wireless fidelity (Wi-Fi) - a type of wireless local area network technology
- Bluetooth - connects Mobile devices wirelessly
- 'third generation' (3G), 'fourth generation' (4G), global system for Mobile communications (GSM) and general packet radio service (GPRS) data services - data networking services for Mobile phones
- dial-up services - data networking services using modems and telephone lines
- virtual private networks - secure access to a private network

It is therefore possible to network the Mobile device to a home office or the internet while travelling.

Not only human life is affected by this mobile technology but the wild life is also disturbed because this RF is increasing the cause of death of birds.

II. ADVANTAGES OF MOBILE PHONE

Technology has become a fundamental aspect in our lives and we cannot neglect its contribution in the welfare of human beings.

1. Anytime and Anywhere:

Few years ago to make one call we have to stand in queues, but today we can make call from anywhere and anytime using a Mobile phone.

2. Emergency:

If we met with any emergency such as accident we can make emergency calls to police department, fire department or ambulance even no coverage of area some emergency call it will be allowed.

3. Mini PC:

The Mobile phone which are equipped with internet facility and some operating systems are called mini PC. Using Mobile phones we can do anything such purchasing movie ticket, chit-chat, emails, view the latest news. Now-a-days we can pay the different taxes and bills through these Mobile phones.

4. Entertainment:

With a Mobile phone in your hand we can play games, listen to music, watch video and movie.

5. Messages:

Now-a-days with the wide use of whatsapp and hike messenger services we can send free text messages, images, videos etc.

III. DISADVANTAGES OF MOBILE PHONE

As there are many uses of mobile phones but there are negative side of this technology also as mentioned below –

- 1. Quality of connectivity-** As one of the disadvantages, mobile devices will need either Wi-Fi connectivity or mobile network connectivity such as GPRS, 3G and in some countries even 4G connectivity that is why this is a disadvantage because if you are not near any of these connections your access to the internet is very limited.
- 2. Security concerns-** Mobile VPNs are unsafe to connect to, and also syncing devices might also lead to security concerns. Accessing a Wi-Fi network can also be risky because WPA and WEP security can be bypassed easily.
- 3. Power Consumption-** Due to the use of batteries in these devices, these do not tend to last long, if in a situation where there is no source of power for charging then that will certainly be a letdown.

IV. PREVIOUS STUDIES

In Previous study of this topic many researchers had given their different opinions on this topic and provided with different solutions. The following figure shows you 2014 mobile Internet users in India:

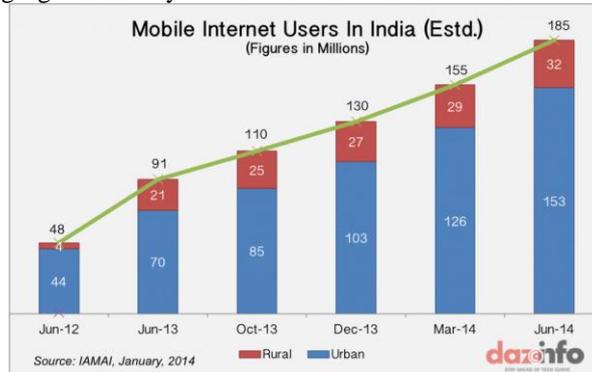


Figure: Mobile Internet Users in India (2014)

As shown in figure the number of mobile internet users increases every year and this increase is mostly followed in urban areas. According to reference ^[10] the Forbes India magazine has given the above mentioned figure of the mobile internet users in India.

V. SOLUTION FOR THIS TECHNOLOGY

The alternative solution for this mobile technology cannot be another technology because another technology has its own advantages and disadvantages too. And we cannot reduce the use of this technology because of its advantages as we have seen earlier :

1. Don't allow children to use a cell phone for calling.

Children should only use a cell phone for dire emergencies. Children are not 'small versions' of adults, multiple studies indicate that children are particularly vulnerable to the effects of cell phone radiation ^[15]. According to reference ^[16] it is given in newspaper that children are facing health related issues like pain in neck, headache etc. And to get the solution for this health problems children must have to done the operations for it.

2. Limit calls to those that are absolutely necessary.

Keep the length of these calls to an absolute minimum. Studies show risk is cumulative with hours of use.

3. Avoid telephoning with your cell phone next to your ear.

Cell phones (2G particularly) are known to communicates at full power when connecting to a number. Hold your phone away from your body until you've finished dialling and put it to your ear when your correspondent answers. When receiving an incoming call give yourself a second or two before putting the phone next to your head once you've accepted the call.

4. Avoid carrying your cell phone directly on your body.

Many cell phones now have GPS incorporated which periodically transmit to update their position, even when switched off. Flight mode or airplane mode is a safer alternative, but better to avoid carrying your phone on your body.

5. Only use your cell phone in conditions of optimum reception.

Instead of using a mobile phone in basement, underground station, elevator use it outside or near a window as much as possible. There's no industry standard on the meaning of the signal bars on cell phones but you're best advised to only telephone when all the signal bars are showing. Some phones can ramp up their emissions 1000-fold in areas where the signal is poor. This means that for each signal bar that is missing your exposure increases several hundred times.

6. Don't use your telephone when in a moving vehicle.

In a moving vehicle (like bus & car) the cell phone antenna is constantly scanning for contact and therefore operating at increased signal strength, hence radiation emissions are increased. According to Lloyd Morgan of the Environmental Health Trust: "GSM phones go to max power every time it connects to the next cell; 3rd generation (UMTS) and 4th generation (LTE) to not change radiated power as they move from cell to cell".

7. Don't use your cell phone in a parked car.

The RF radiation from your cell phone reflected back by the cars metallic structure magnifies the radiation. It's called the Faraday cage effect. This radiation from your phone bounces round your car and is absorbed by your body at a higher level than would otherwise be.

8. Use an air tube headset when possible.

Air tube headsets are the safest way of increasing the distance. They are comprised of a part-wired cable and part air tube. This air tube component converts the electrical signal into harmless airwaves. An air tube type hands free kit can reduce radiation significantly as can a cell phone radiation protection case and it is much safer than Bluetooth. Speaker phone mode is another option. This enables you to hold the phone away from your body when you use it. The downside is that it makes the battery work harder thereby increasing magnetic radiation levels. If you don't have an air tube, speakerphone mode offers a "lesser of two evils" solution.

9. Never sleep with a cell phone switched on at night beside your bed.

Mobile phones emit radiation and other electromagnetic field (EMF) exposures. These exposures can impede the function of the immune system and have serious long-term adverse impact. Never even bring the cell phone into the bedroom. Studies show that cell phone radiation and other electromagnetic field (EMF) exposures at night can interrupt sleep cycles and contribute to a host of ailments.

10. Avoid using your cell phone if you are feeling in any way run down.

The radiation can make you feel even more tired and weaken your organism further. The elderly and pregnant women should be heavily discouraged from using a cell phone, the embryo and fetus is not conducive to microwave radiation. If you have a metallic appendage in or around your head such as teeth fillings, metal screws and plates, jewelry and metal framed glasses you may be particularly affected.

11. Don't make the mistake of thinking a low SAR cell phone is a safe cell phone.

SAR means Specific Absorption Rate which is a measure of microwave radiation absorbed by human body tissue from using a cell phone. It's good to know what the SAR is of your cell phone but do not make the mistake of thinking a low SAR cell phone is a safe cell phone. A "high SAR phone" can be very efficient and normally work at low power, where as a "low SAR phone" can be inefficient and normally have to work at high power.

12. As much as possible communicate via text messaging rather than making phone calls.

Texting also exposes your body to radiation but it limits the duration of exposure and the proximity to the body. Hold your cell phone away from your body when you press 'send'. If you find you are developing a sensitivity despite taking all these precautions, protective paints, veils and nets may be able to offer you some relief but ultimately you are best advised to stop using a cell phone.

VI. CONCLUSION

Research shows that the correct use of modern technologies require a comprehensive understanding to the reality of change that happens to the community. Thus, this requires concerted efforts through full cooperation among all sectors of society, from family to government institutions, along with the presence of useful awareness programs supervised by these institutions and pursued by the family to utilize the modern technologies accurately in order to ensure and protect the future generations. Nowadays, people socialize with each other using online-environments such as Face book, MSN and phones instead of face to face interaction on these types of communications. The nature of the human is not programmed for this type of communication yet. People must live and work together to socialize with each others. In conclusion, it is obvious that modern technologies can be a double-edged weapon. They have their advantages, but with many inventions, they can completely change our lives, for better or worse. As a result, we must work for the interest of social connection to preserve people's feelings towards each other away from the addiction to technology. Finally, this research is simply a little effort towards doing justice to this subject and it could assist future researchers in examining this topic with other groups and in more depth and with more relationships to the present use of modern technologies and their impacts on societies.

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