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Repercussions of Radiation on the Environment, Human life and Safety Measures

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Abstract
The radiation is one of the most drastic change in our present world. The radiation effects human beings and birds a lot, many birds species are came to an end, this also brings cancer and many diseases to humans and birds navigation power also effects more and they are forgetting their home. In this article we tried to bring an awareness among people that how much this going to affect society and on their life this article is very important to students this brings awareness among them, as these days students are using mobiles a lot and they are increasing the radiation. This article also gives how to save ourselves from radiation and we suggested the other remedy for this radiation that how we can be far from radiation and we can be safe from form radiation effect. The radiation is increasing a lot these days and it is very important to us to control radiation. We also have to show our next generation a great to save our society from this such a great drastic situation. We have to create a way that our next generation cannot get effected by this radiation effect, we also should be very careful with the radiation. As everyone are very careless about the radiation effects as many of them doesn't know these effect properly.

Keywords: *Radiation, X-rays, Alpha particles, Beta particles, Gamma rays.*

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I. Introduction

Radiation is often considered as either ionizing or non-ionizing depending on the energy of the radiated particles. Ionizing radiation emits more than 10 eV to ionize atoms and molecules and break the chemical bonds. This is an important distinction due to the large difference in harmfulness to living organisms. Ionizing radiation is radioactive materials that emit α, β, or γ radiation, consisting of helium nuclei, electrons or positrons, and photons, respectively. Other sources include X-rays from medical radiography examinations of mesons, positrons, neutrons and other particles that constitute the secondary cosmic rays that are produced Radiation is mainly defined as the emission or transmission of energy in the form of waves or particles through space or material medium.[1] Electromagnetic Radiation consists with radio waves, microwaves, infrared, visible light, ultraviolet, x-rays, and gamma radiation (γ), Particle Radiation are found as the form of alpha radiation (α), beta radiation (β), proton radiation and neutron radiation, Acoustic Radiation can be exemplified as ultrasound, sound, and seismic waves and Gravitational Radiation is the radiation that takes the form of gravitational waves, or ripples in the curvature of space time [2]. Radiation is the phenomenon of waves radiating which means travelling outward in all direction from a source. This leads to a system of measurements and physical units that are applicable to all types of radiation. Because such radiation expands as it passes through space, and as its energy is conserved (in vacuum), the intensity of all types of radiation from a point source follows an inverse-square law in relation to the distance from its source. Like any ideal law, the inverse-square law approximates measured radiation intensity to the extent that the source approximates a geometric point [3]. The effects of radiation were initially acknowledged in the application of X-rays for medical diagnostics. The rapid pursuit of the medical advantages resulted in the acknowledgment of the hazards and resulting harm linked with it. In the initial stages, the primary detrimental effects of excessive radiation exposure, such as radiation burns, were readily apparent. Consequently, efforts were primarily directed at preventing these harms, with a particular emphasis on safeguarding practitioners rather than patients. Despite the limited scope of the issue, it ultimately gave rise to the establishment of radiation protection as a distinct field of study. Later on, it was progressively acknowledged that there were additional, less apparent, detrimental consequences of radiation such as radiation-induced cancer, which poses a certain level of danger even at low levels of radiation exposure. This risk is inevitable but can be mitigated. Consequently, the evaluation of the advantages derived from nuclear and radiation practices in relation to the potential risks of radiation, as well as the implementation of measures to minimize these risks, has become a prominent aspect of radiation safety. This study will examine the precautionary methods for safeguarding life, property, and the environment against ionizing radiation.

Ionizing Radiation

Ionizing radiation (or ionising radiation), including nuclear radiation, consists of subatomic particles or electromagnetic waves that have sufficient energy to ionize atoms or molecules by detaching electrons from them.[4] Some particles can travel up to 99% of the speed of light, and the electromagnetic waves are on the high-energy portion of the electromagnetic spectrum. Gamma rays, X-rays, and the higher energy ultraviolet part of the electromagnetic spectrum are ionizing radiation, whereas the lower energy ultraviolet, visible light, nearly all types of laser light, infrared, microwaves, and radio waves are non-ionizing radiation. The boundary between ionizing and non-ionizing radiation in the ultraviolet area cannot be sharply defined, as different molecules and atoms ionize at different energies. The energy of ionizing radiation starts between 10 electron volts (eV) and 33 eV. Typical ionizing subatomic particles include alpha particles, beta particles, and neutrons. These are typically created by radioactive decay, and almost all are energetic enough to ionize. There are also secondary cosmic particles produced after cosmic rays interact with Earth's atmosphere, including muons, mesons, and positrons [5-6].

Non-Ionizing Radiation

Non-ionizing (or non-ionising) radiation refers to any type of electromagnetic radiation that does not carry enough energy per quantum (photon energy) to ionize atoms or molecules—that is, to completely remove an electron from an atom or molecule.[7] Instead of producing charged ions when passing through matter, non-ionizing electromagnetic radiation has sufficient energy only for excitation (the movement of an electron to a higher energy state). Non-ionizing radiation is not a significant health risk. In contrast, ionizing radiation has a higher frequency and shorter wavelength than non-ionizing radiation, and can be a serious health hazard: exposure to it can cause burns, radiation sickness, many kinds of cancer, and genetic damage. Using ionizing radiation requires elaborate radiological protection measures, which in general are not required with non-ionizing radiation.

The region at which radiation is considered "ionizing" is not well defined, since different molecules and atoms ionize at different energies. The usual definitions have suggested that radiation with particle or photon energies less than 10 electron volts (eV) be considered non-ionizing. Another suggested threshold is 33 electron volts, which is the energy needed to ionize water molecules. The light from the Sun that reaches the earth is largely composed of non-ionizing radiation, since the ionizing far-ultraviolet rays have been filtered causes molecular damage (for example, sunburn) by photochemical and free-radical-producing means [8].

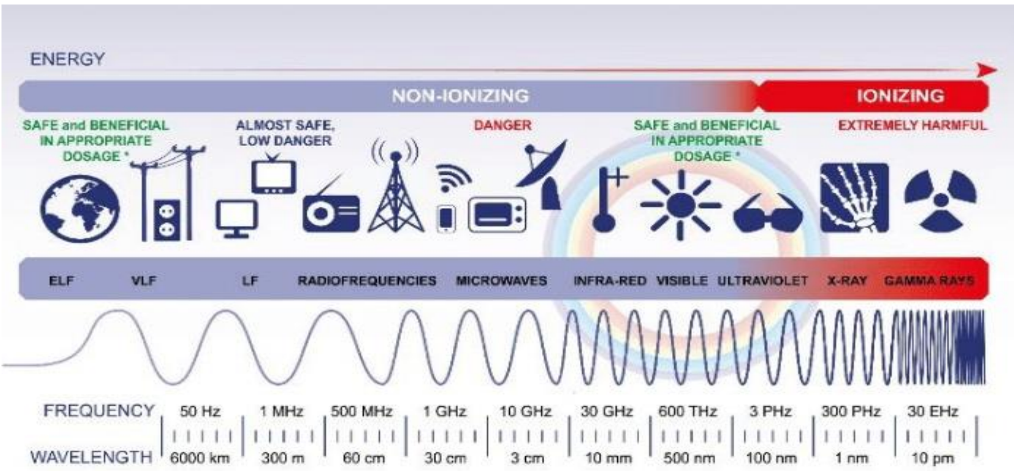

Figure 1 Types of Radiations

Types of radiation

There are mainly three types of radiation based on the characteristics of the radiation

- Alpha radiation
- Beta radiation
- Gamma radiation

Alpha particle radiation

Alpha decay or α-decay is a type of radioactive decay in which an atomic nucleus emits an alpha particle (helium nucleus) and thereby transforms or 'decays' into a different atomic nucleus, with a mass number that is reduced by four and an atomic number that is reduced by two. An alpha particle is identical to the nucleus of a helium-4 atom, which consists of two protons and two neutrons. It has a charge of +2 e and a mass of 4 Da. For example, uranium-238 decays to form thorium-234. While alpha particles have a charge +2 e, this is not usually shown because a nuclear equation describes a nuclear reaction without considering the electrons – a convention that does not imply that the nuclei necessarily occur in neutral atoms. Alpha decay typically occurs in the heaviest nuclides. Theoretically, it can occur only in nuclei somewhat heavier than nickel (element 28), where the overall binding energy per nucleon is no longer a maximum and the nuclides are therefore unstable toward spontaneous fission-type processes. In practice, this mode of decay has only been observed in nuclides considerably heavier than nickel, with the lightest known alpha emitter being the second lightest isotope of antimony, 104Sb [9]. Exceptionally, however, beryllium-8 decays to two alpha particles. Alpha decay is by far the most common form of cluster decay, where the parent atom ejects a defined daughter collection of nucleons, leaving another defined product behind. It is the most common form because of the combined extremely high nuclear binding energy and relatively small mass of the alpha particle. Like other cluster decays, alpha decay is fundamentally a quantum tunnelling process. Unlike beta decay, it is governed by the interplay between both the strong nuclear force and the electromagnetic force. Alpha particles have a typical kinetic energy of 5 MeV (or ≈ 0.13% of their total energy, 110 TJ/kg) and have a speed of about 15,000,000 m/s, or 5% of the speed of light. There is surprisingly small variation around this energy, due to the strong dependence of the half-life of this process on the energy produced. Because of their relatively large mass, the electric charge of +2 e and relatively low velocity, alpha particles are very likely to interact with other atoms and lose their energy, and their forward motion can be stopped by a few centimetres of air.

History of Alfa radiation

Alpha particles were first described in the investigations of radioactivity by Ernest Rutherford in 1899, and by 1907 they were identified as He2+ ions. By 1928, George Gamow had solved the theory of alpha decay via tunneling. The alpha particle is trapped inside the nucleus by an attractive nuclear potential well and a repulsive electromagnetic potential barrier. Classically, it is forbidden to escape, but according to the (then) newly discovered principles of quantum mechanics, it has a tiny (but non-zero) probability of "tunneling" through the barrier and appearing on the other side to escape the nucleus. Gamow solved a model potential for the nucleus and derived, from first principles, a relationship between the half-life of the decay, and the energy of the emission, which had been previously discovered empirically and was known as the Geiger–Nuttall law [10].

Beta particle radiation

Beta particles with an energy of 0.5 MeV have a range of about one metre in the air; the distance is dependent on the Particle energy. An unstable atomic nucleus with an excess of neutrons may undergo β− decay, where a neutron is converted into a proton, an electron, and an electron antineutrino (the antiparticle of the neutrino). This process is mediated by the weak interaction. The neutron turns into a proton through the emission of a virtual W− boson. At the quark level, W− emission turns a down quark into an up quark, turning a neutron (one up quark and two down quarks) into a proton (two up quarks and one down quark). The virtual W− boson then decays into an electron and an antineutrino. β− decay commonly occurs among the neutron-rich fission byproducts produced in nuclear reactors. Free neutrons also decay via this process. Both of these processes contribute to the copious quantities of beta rays and electron antineutrinos produced by fission-reactor fuel rods. Unstable atomic nuclei with an excess of protons may undergo β+ decay, also called positron decay, where a proton is converted into a neutron, a positron, and an electron neutrino.

History of Beta radiation

Beta-plus decay can only happen inside nuclei when the absolute value of the binding energy of the daughter nucleus is greater than that of the parent nucleus, i.e., the daughter nucleus is a lower-energy state. Caesium-137 decay scheme, showing it initially undergoes beta decay. The 661 keV gamma peak associated with 137Cs is actually emitted by the daughter radionuclide. The accompanying decay scheme diagram shows the beta decay of caesium-137. 137Cs is noted for a characteristic gamma peak at 661 KeV, but this is actually emitted by the daughter radionuclide 137mBa. The diagram shows the type and energy of the emitted radiation, its relative abundance, and the daughter nuclides after decay. Phosphorus-32 is a beta emitter widely used in medicine and has a short half-life of 14.29 days[11] and decays into sulfur-32 by beta decay as shown in this nuclear equation:

1.709 MeV of energy is released during the decay [11].

Gamma particle radiation

The emission of a gamma ray from an excited nucleus typically requires only 10−12 seconds. Gamma decay may also follow nuclear reactions such as neutron capture, nuclear fission, or nuclear fusion. Gamma decay is also a mode of relaxation of many excited states of atomic nuclei following other types of radioactive decay, such as beta decay, so long as these states possess the necessary component of nuclear spin. When high-energy gamma rays, electrons, or protons bombard materials, the excited atoms emit characteristic "secondary" gamma rays, which are products of the creation of excited nuclear states in the bombarded atoms. Such transitions, a form of nuclear gamma fluorescence, form a topic in nuclear physics called gamma spectroscopy. Formation of fluorescent gamma rays are a rapid subtype of radioactive gamma decay.

In certain cases, the excited nuclear state that follows the emission of a beta particle or other type of excitation, may be more stable than average, and is termed a meta stable excited state, if its decay takes (at least) 100 to 1000 times longer than the average 10−12 seconds. Such relatively long-lived excited nuclei are termed nuclear isomers, and their decays are termed isomeric transitions. Such nuclei have half-lifes that are more easily measurable, and rare nuclear isomers are able to stay in their excited state for minutes, hours, days, or occasionally far longer, before emitting a gamma ray. The process of isomeric transition is therefore similar to any gamma emission, but differs in that it involves the intermediate meta stable excited state(s) of the nuclei. Meta stable states are often characterized by high nuclear spin, requiring a change in spin of several units or more with gamma decay, instead of a single unit transition that occurs in only 10−12 seconds. The rate of gamma decay is also slowed when the energy of excitation of the nucleus is small [12].

History of Gamma Radiation

The first gamma ray source to be discovered was the radioactive decay process called gamma decay. In this type of decay, an excited nucleus emits a gamma ray almost immediately upon formation. Paul Villard, a French chemist and physicist, discovered gamma radiation in 1900, while studying radiation emitted from radium. Villard knew that his described radiation was more powerful than previously described types of rays from radium, which included beta rays, first noted as "radioactivity" by Henri Becquerel in 1896, and alpha rays, discovered as a less penetrating form of radiation by Rutherford, in 1899. However, Villard did not consider naming them as a different fundamental type. Later, in 1903, Villard's radiation was recognized as being of a type fundamentally different from previously named rays by Ernest Rutherford, who named Villard's rays "gamma rays" by analogy with the beta and alpha rays that Rutherford had differentiated in 1899[13-15].

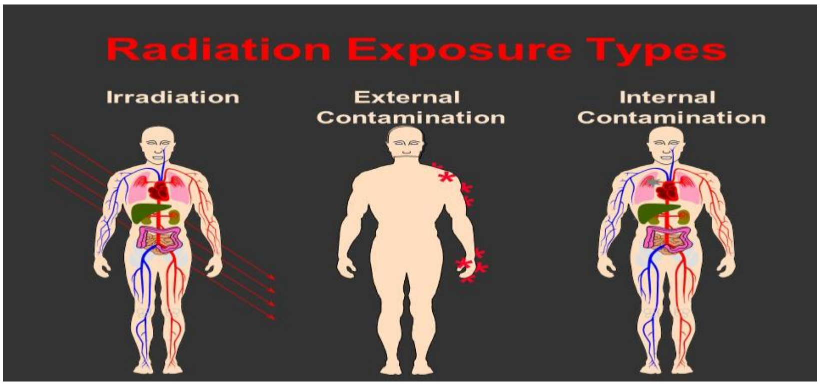

Figure 2 Effect of radiation on human body

Effect of Radiation on Birds

Tower kill

Tower kill is a phenomenon in which birds are killed by collisions with antenna towers. In poor visibility, birds may simply fly into the guy-wires. But night illuminations around the towers can also disrupt migration patterns, with disoriented birds colliding with the structure. Research indicates that blinking lights can reduce deaths without diminishing visibility by aircraft.

Overview

In the United States, the US Fish and Wildlife Service estimates that between 4 and 50 million birds are killed each year by tower kill. The effect on overall bird populations by tower kill may be small, but the phenomenon is of considerable concern to ornithologists, because many endangered bird species are being killed, and because so many birds are killed in such a small area of land. In at least one instance, several thousand birds were killed at a single tower in one night. Additionally, the unnatural lights on communication towers disrupt bird migration patterns in ways that are still not fully understood. At least 231 species have been affected, with neotropical migrants making up a large proportion of all species killed [16-18].

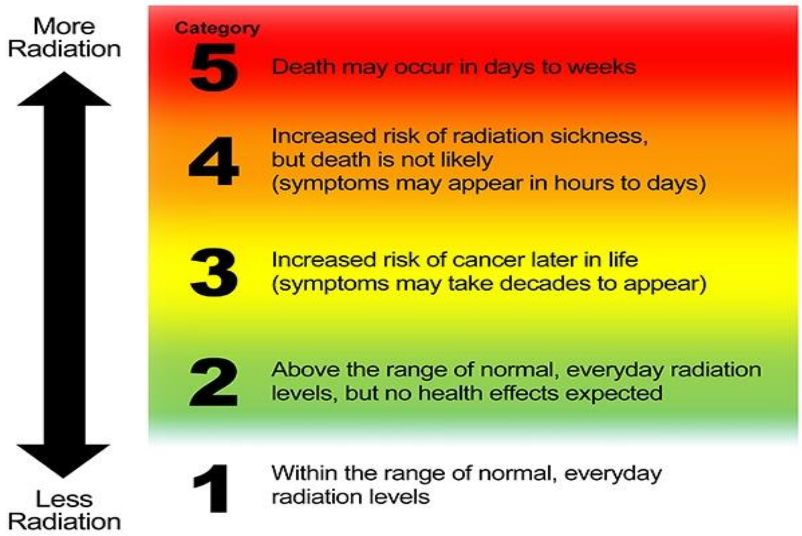

Figure 3 Radiation Hazardous scale

Mechanism of Radiation

There are two mechanisms of bird death due to communications towers. The first is the "blind kill" where birds flying in poor visibility do not see the guy-wires in time to avoid them. This is more of a threat for faster flying birds such as waterfowl or shorebirds. Slower and more agile birds, such as songbirds, are not as likely to succumb to blind collision. Communications towers that are lighted at night for aviation safety may help reduce bird collisions caused by poor visibility, but they bring about a second, even more deadly mechanism for mortality. When there is a low cloud ceiling, hazy or foggy conditions, lights on a tower reflect off water or other particles in the air creating an illuminated area around the tower. Migrating birds lose their stellar cues for nocturnal migration in such conditions. In addition, they often lose any broad orienting perspective they might have had on the landscape. When passing the lighted area, it may be that the increased visibility around the tower becomes the strongest cue the birds have for navigation, and thus they tend to remain in the lighted space near the tower, afraid to leave. Mortality occurs when they run into the structure and its guy wires, or even other migrating birds as more and more passing birds aggregate in the relatively small, lighted space. It is important to clarify that the lights are not documented to attract birds from afar, but appear to hold birds that fly into the illuminated vicinity [19]. Lights are required by the US Federal Communications Commission (FCC) on any tower taller than 199 feet (61 m), or on shorter towers if they are near airports. In 2008, it was estimated there were roughly 125,000 lit towers in the US and more than 7,000 new towers are constructed each year [16].

Effect of radiation of Human life

Radiation is not always dangerous, and not all types of radiation are equally dangerous, contrary to several common medical myths. For example, although bananas contain naturally occurring radioactive isotopes, particularly potassium-40 (40K), which emit ionizing radiation when undergoing radioactive decay, the levels of such radiation are far too low to induce radiation poisoning, and bananas are not a radiation hazard. It would not be physically possible to eat enough bananas to cause radiation poisoning, as the radiation dose from bananas is non-cumulative[20-25]. Radiation is ubiquitous on Earth, and humans are adapted to survive at the normal low-to-moderate levels of radiation found on Earth's surface. The relationship between dose and toxicity is often non-linear, and many substances that are toxic at very high doses actually have neutral or positive health effects, or are biologically essential, at moderate or low doses. There is some evidence to suggest that this is true for ionizing radiation: normal levels of ionizing radiation may serve to stimulate and regulate the activity of DNA repair mechanisms. High enough levels of any kind of radiation will eventually become lethal, however. Ionizing radiation in certain conditions can damage living organisms, causing cancer or genetic damage [26-29]. Non-ionizing radiation in certain conditions also can cause damage to living organisms, such as burns. In 2011, the International Agency for Research on Cancer (IARC) of the World Health Organization (WHO) released a statement adding radio frequency electromagnetic fields (including microwave and mm waves) to their list of things which are possibly carcinogenic to humans[30].

Mobile Tower

A cell site, cell phone tower, cell base tower, or cellular base station is a cellular-enabled mobile device site where antennas and electronic communications equipment are placed (typically on a radio mast, tower, or other raised structure) to create a cell, or adjacent cells, in a cellular network. The raised structure typically supports antenna [clarification needed] and one or more sets of transmitter/receivers transceivers, digital signal processors, control electronics, a GPS receiver for timing (for CDMA2000/IS-95 or GSM systems), primary and backup electrical power sources, and sheltering[31]. Multiple cellular providers often save money by mounting their antennas on a common shared mast; since separate systems use different frequencies, antennas can be located close together without interfering with each other. Some provider companies operate multiple cellular networks and similarly use collocated base stations for two or more cellular networks, (CDMA2000 or GSM, for example). Cell sites are sometimes required to be inconspicuous; they can be blended with the surrounding area or mounted on buildings or advertising towers. Preserved trees capes can often hide cell towers inside an artificial or preserved tree. These installations are generally referred to as concealed cell sites or stealth cell sites [32, 33].

About 5g technology

5G is the term used to describe the 5th generation of wireless communication technology that will be used by newer mobile devices and antenna installations. 5G can use: frequencies used by current mobile devices, for example 3G and 4G frequencies above 6 GHz Frequencies above 6 GHz have already been used for a number of years in many applications, such as:

- police radar
- remote sensors
- technology in medicine
- security-screening units at airports

Very few wireless communication devices are currently 5G enabled, but these types of devices will increase as 5G networks are introduced in Canada. 5G devices will need to meet the Canadian radiofrequency exposure requirements before they can be sold in Canada. Antenna installation operators using 5G technology will have the same on-going compliance obligations for radiofrequency exposures to wireless devices and installations**.**

Protect from over radiation

Time: For people who are exposed to radiation in addition to natural background radiation, limiting or minimizing the exposure time reduces the dose from the radiation source.

Distance: Just as the heat from a fire reduces as you move further away, the dose of radiation decreases dramatically as you increase your distance from the source.

Shielding: Barriers of lead, concrete, or water provide protection from penetrating and. This is why certain radioactive materials are stored under water or in concrete or lead-lined rooms, and why dentists place a lead blanket on patients receiving x-rays of their teeth. Therefore, inserting the proper shield between you and a radiation source will greatly reduce or eliminate the dose you receive [35-37].

Safety Measures about Radiation

Distance matters

Keep the phone away from your head and body. While talking on your cell phone, prefer to position the cell phone away from your body as far as possible. Whenever possible, use the speakerphone mode or an air tube wired headset.

Avoid carrying your cell phone on your body at all times

When a wireless phone is close to you, more than 50% of the RF is absorbed into your brain and body. Do not carry a powered ON cell phone in your pocket or bra. Cell phones emit radiation constantly, even when you are not actively using them. Power phones 100% off before you carry them on your body.

Protect your fertility

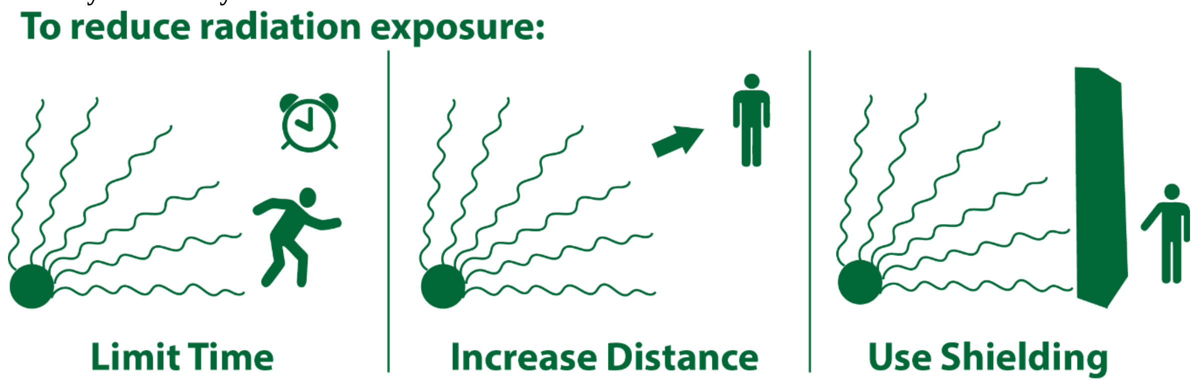

Figure 4 Protection from radiation

This radiation has been shown to damage sperm and ovaries. Many people move the phone away from their head to reduce exposure but then rest the phone on their lap, forgetting that a cell phone or laptop near the abdomen results in higher radiation absorption to the reproductive organs. Did you know there are instructions in your cell phone manual with a separation distance the manufacture recommends that you keep your cell phone away from your body? Keeping it closer than the designated distance can result in a violation of the government's FCC limits. See the hidden warnings in cell phone manuals here.

Avoid using your cell phone when the signal is weak

Be aware that when you are in an area of poor reception (i.e. with two or less service bars for signal strength) the phone will increase RF radiation power output by over 1000 times to reach the nearest cell tower. Avoid using your cell phone when the signal is weak or inside metal vehicles (car, bus, train or airplane) and elevators, as the phone could emit a maximum amount of radiation.

Use AIRPLANE mode and turn antennas OFF when not in use

Airplane mode turns off most transmitting antennas. Be aware that with newer phone models, you also must turn off Bluetooth and hotspot antennas individually. So take the time to go to your settings, learn how to use airplane mode and ensure all your antennas are off. Turn your phone to airplane mode with antennas off more often in your daily life. When you are using a cell phone, turn off antennas that you are not using. For example, turn mobile data off when not using the internet. Turn Bluetooth off when not in use. Otherwise, all the antennas are always transmitting all the time.

Children should only use cell phones for emergencies

Children's skulls are thinner than adults' and their brains are still developing. Hence, radiation from cell phones penetrates more deeply into their brains and is likely to cause more damage. Minimize children's exposure. Be aware of how close children are to you when you are using a cell phone or wireless device because they will absorb RF from your device. For example: do not rest a cell phone on or near your child; do not hold a transmitting device near their bodies.

Do not sleep with your cell phone powered on :-

Research shows that sleep is disrupted by cell phone radiation. Need an alarm clock? Simply set the phone to "airplane" or "flight" or "off-line" mode, which will stop "wireless" electromagnetic field emissions. Better yet, get a battery powered alarm clock and turn the phone 100% off. Do not charge a cell phone or any electronic device near your bed. In fact, it is best to create a sleep sanctuary at night, allowing your body to rest and rejuvenate Learn how to set up a low EMF sleep sanctuary here.

Decrease App Radiation

Even if you are not using an App, it is always updating in the background, emitting RF into your body. Delete Apps you are not using. Turn off auto sync for the Apps you need and sync them manually at times when you are at a distance from the phone or when can connect with Ethernet instead of Wi-Fi.

Use a corded home landline

Use a corded home landline (not a home cordless phone, because cordless phones use electromagnetic microwave technology just like cell phones). Most cordless phone base stations constantly emit microwave radiation regardless of whether or not any connected handset is in use. The cordless phone handsets also emit microwave radiation. Corded landlines have no radiation emissions and are the best choice.

Connect your cell phone to the internet without radiation, by using an ethernet cord :-

Yes, it is possible to connect your cell phone without radiation, by using a wire! In fact, once connected, you can do everything your cell phone usually does with Wi-Fi with a RF radiation free connection! Most cell phone models allow Ethernet but you must get the proper adapter. See a step by step here.

Avoid using your cell phone inside spaces that are surrounded by metal like a car, elevator, bus, train, or airplane

The metal surroundings reflect the waves inside the vehicle, often increasing your radiation exposure. Your use near others in a car also passively exposes other persons near you (children, pregnant women, and other adults) to your phone’s electromagnetic radiation fields.

Minimize time

Whenever possible, minimize talk time and choose to communicate via text messaging rather than making a voice call to limit the duration of exposure and the proximity to the body. Hold the phone out, away from your body when you press “send,” and do not rest your phone against your abdomen as you text.

Do not rest a laptop on your lap

Wi-Fi laptops and tablets also emit the same type of radiofrequency radiation as cell phones. Learn more about how to reduce exposure to wireless laptops and computers here.

International Exposure limits for EMF (1800 MHz)	
12 W/m2	USA, Canada and Japan
9.2 W/m2	ICNIRP and EU recommendation 1998
9 W/m2	Exposure limit in Australia
2.4 W/m2	Exposure limit in Belgium
1.0 W/m2	Exposure limit in Italy, Israel
0.5 W/m2	Exposure limit in Auckland, New Zealand
0.45 W/m2	Exposure limit in Luxembourg
0.4 W/m2	Exposure limit in China
0.2 W/m2	Exposure limit in Russia, Bulgaria
0.1 W/m2	Exposure limit in Poland, Paris, Hungary
0.1 W/m2 E	Exposure limit in Italy in sensitive areas
0.095 W/m2	Exposure limit in Switzerland
0.09 W/m2	ECOLOG 1998 (Germany) Precaution recommendation only
0.001 W/m2	Exposure limit in Austria

Table 1 International Exposure limits for EMF (1800 MHz)

II. Conclusion

Radiation existed long before the evolution of life on earth and inevitable part of the environment. Radiation interacts with matter to produce excitation and ionization of an atom or molecule; consequently, physical and biological effects are produced. But now a days the artificial radiation which is made by the humans for communications was leading to the wrong path in the society as the name of development and we are losing many species and we ourselves effecting our own life, and bringing our own lives and health into danger. Not only us we are also bringing a great problem, and we are also disturbing our ecosystem and bringing a great loss to the economy. This is very dangerous to our future generation are also disturbing our ecosystem and bringing a great loss to the economy. This is very dangerous to our future generation as may miss and they will be not known about many birds and animals which will extent in the upcoming days. This should be eradicated by the present generation and the people and the companies should think the other remedy for this danger situation. This article is only to bring awareness among people about the present situation happening in our country. As on a table given above shows that our country has the highest radiation rate than compared to any other country. We hope that this present situation will get a remedy and as our country has to be on the top by changing this position and become a role model for many countries and the radiation has to decrease in our country. Hence, the electromagnetic radiation should be reduced and we hope all the people are safe from the radiation.

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