



International Journal of Multidisciplinary Research Education Analysis and Development – IJMREAD

Peer-Reviewed : Open Access Journal

Radiation Contamination Due to Cellular Phone, Internet and Electricity: Impact on Living Species

Dr. Suneel Kumar, AP of Chemistry, Govt. Lohia PG College Churu (Raj.)

Dr. DevPrakash Yadav, AP of Chemistry, SD College Hathras

Dharmendra Dwivedi, AP of Physics, GDC Bangarmau, Unnao

Abstract

Parameters like blood stress (BS) and palpitation cordis, for 40 healthy people (20 man and 20 woman, within age group 36-46 years) were measured for the study. In the study, palpitation cordis (PC) and blood stress along with other health parameters are evaluated. The transmitter and receiver handset (Samsung), SIM Airtel, distance between donor and acceptor, time of observations and other external parameters are constant. These observations are calculated using software “students online entrance examination”. Significant effect is observed on PC and BS indicating towards danger zone. In high voltage electric field observation and inference, the changes in blood stress and heart palpitation cordis when people were subjected to electromagnetic radiation due to electric power (220KV-500KV) line for 40 minutes of time are not healthy and indicating danger to the rest of life.

Keywords: Contamination, living Species, Impact etc.

Introduction-

Rapid growth in different areas of discipline and tools in current days have embellished the person meddling into the innate surroundings. These hindrance is related with physical science, chemical science and biological science, consequently systems revealing in different unhealthy and unlike effects on universe. For financial and eventual growth, there is consciousness about environmental contamination recently. In our ordinary everyday life there is encompass by people-made radiation. EPR: food is heated in microwave ovens, airplanes are guided by radar waves, television sets receive electromagnetic waves transmitted during night, incandescent or fluorescent lights are turned on to provide artificial illumination, and cities glow brightly with the colorful fluorescent and neon lamps of advertisement signs. Ultraviolet radiation cannot be seen by eye but its effect is felt like pain from sunburn. Mobile tower, mobile phone and Electric high voltage line are also waves hammering. The strength of people made EPR has become so omnipresent and it is now increasingly being recognized as a form of unseen and dangerous pollution that might affect life forms in multiple ways [1]. At the background levels of exposures [2]. On the other hand, long-term studies have reported frightening observations, detecting negative consequences on immunity, health, reproductive system, behavior, communication and co-ordinations [3]. The electromagnetic radiations are classified in to data lines occurrence turf (DLOT), middle occurrence turf (MOT)

extremely low frequency field (ELF) and stationary turf [4]. The consequence of mobile phone radiation and HVPL on human health is the subject of recent interest due to enormous increase in mobile phone usage throughout the world. Some national radiation advisory authorities have suggested actions to diminish exposure to their citizens as a preventive approach. The speedily growing mobile phone technology increased public anxiety about the possibility of associated undesirable health effects. There is some evidence for biological consequences also, which, may be necessarily hazardous for humans [5]. Radiation from mobile base stations (towers) may also have an effect on the local abundance of insects or other invertebrates and thereby indirectly influencing the number of house sparrows. The adult house sparrows are seed-eaters, and need insects and other invertebrates to feed their young, such that several investigators have postulated that the lack of invertebrates might be an important factor in the reported decline of house sparrow populations in urban areas. Short-term exposure of pulsed mobile phone radiation with carrier frequency 900 MHz resulted in a 50-60 % decrease of the reproductive capacity of insects. Similar results were also found with microwave radiation at other inverse of time period.

Some study showed that long-term exposure to low- intensity (pulsed) electromagnetic radiation from base stations may have significant effects on populations of wild birds. This explains migratory birds undermining navigational abilities. Honey bees appear to be very sensitive to EMR [6]. Plant showed responses to high frequency electromagnetic fields [7]. Other wildlife such as amphibians and reptiles also appear to be at high risk with possible interference of EMR. Biological effects due to hVpl on plants, insects and animals, as well as the human body are less harmful when exposed to levels that are below the standardized threshold values. Probable risks from high voltage power line like leukemia, breast cancer, neuropsychological disorders, decrease in blood sugar and reproductive outcomes have been reported in many researches.

Methods and Material Used-

Materials used for experiments are caddo 22b multipara monitor with silver and silver chloride eCG disposable electrodes (single use) and eCG paper rolls. Multipara monitor machine is a light weight, compact and easily portable. Using the machine one can view important signals such as electrocardiogram (eCG), respiratory rate, percentage of saturated oxygen (%SO), blood stress and body thermal report. These parameters can be easily displayed on monitor. The monitor is easy tool to use with functions carried out by a small number of buttons and a rotating switch on the front panel. There are four sensors or electrodes, used in multiparameter which is capable of giving information of electrocardiogram and health parameters. The multipara monitor has a printer with network arrangement and provision to display patient's very important health parameters on the screen. The data so obtained is used for measurement of various parameters and keeping record for diagnosis and treatment.

Project and Sampling-

In the support of the study of cell phone waves 40 People including males and females within age in between of 36-46 years were selected from urban backgrounds. These volunteers of Greater Noida were using cell phones more than 5 years. The purpose of study was explained to all volunteers and their consents were obtained. They are also asked not to have unnecessary activities together with

physical exercises and aerobatics within 12 hours prior the collecting data.

Volunteers were given information regarding the equipments being used for examining the health parameters, procedure of study and experimentation. Mobile study was completed in a silent, airy and spacious room in seating position. The recording of respiratory speed (RS), saturated oxygen (SO) along with systolic blood stress (SBS), diastolic blood stress(DBP), beat pace (BP) and body temperature of a volunteer under observation was completed with the help of simple six channel multipara monitor. ECG electrodes are positioned on arms, legs and chest as per standard medical practice or guidelines given in the user's manual provided by supplier of machine. An ECG recording is absolutely trouble-free. A volunteer at fixed distance (100 m) was talking continuously on one mobile Samsung with volunteer under experiment using another mobile Sim Airtel.



Fig.-1:High Voltage Eltric Line

Outcome and Conversation-

The various parameters indicated distinct trend in variations in the data except temperature parameter for mobile radiation emitted due to one hour communication. This was because the change in temperature was very small in magnitude as compared with other parameters. It was observed that there were significant changes in PC and BS as compared with other health parameters. It had been noticed that after 15 minutes of exposure of cell phone radiation, health parameters under investigation showed a trend in the value of parameter. Hence time of exposure was kept time of 15 minutes for further observations. Study indicates comparative changes in health parameters after mobile phone radiation PC is associated with BS. Observations from 40 volunteers were compared with un radiated normal values of health parameters. Hence BS values for blood pressure and heart rate are shown in Table A . stress exposure of 15 minutes. Sex wise comparison of various parameters is shown in the Table A , showed that for male the variation in PC was significant at the level of $BS < 0.35$, while in case of female volunteers the change in PC statistically significant too . Similarly, observed variation in diastolic blood stress is significant for female group. Same observations were noted by asking volunteer to seat below hVpl. The statistical BS values of these observations are indicated in Table B.

Sex	Age days 6000-6500	BS(mmHg) value for PC		BS (mmHg)value for DBS	
		600 Sec	900 Sec	600 Sec	900 Sec
Male	6000± 1.95	0.0198	0.0010	0.492	0.562
Female	6300 ± 1.68	0.5223	0.1833	0.196	0.015

Table –A



Fig.-2: Mobile Phone Used for Study

Variables	For male				For female			
	Min.	Max.	od value	S(mmHg)	Min.	Max.	od value	S(mmHg)
sbt ₁	90	134	10.00	0.198	92	108	6.52	0.553
sbt ₂	95	115	8.50		102	95	7.28	
dbs ₁	55	74	11.42	0.196	55	85	7.56	0.428
dbs ₂	52	83	5.26		54	58	6.25	
rr ₁	09	16	1.89	0.622	09	16	1.02	0.183
rr ₂	15	11	1.95		16	06	2.02	
cp ₁	48	88	10.15	0.635	62	91	5.24	0.385
cp ₂	65	85	9.29		68	69	5.45	
bs ₁	63	94	11.00	0.101	68	89	6.27	0.629
bs ₂	79	78	5.53		72	68	5.10	
SO ₁	75	80	3.35	0.342	69	92	5.24	0.864
SO ₂	84	82	1.98		84	94	1.04	

Table- B

Conclusion-

Uninterrupted cell phone call and use of internet, study concerns that the human mental disorders are created along with various diseases like all type of cancers, nonmalignant thyroid nodular disease parathyroid adenoma, posterior sub capsular cataracts, brain tumors and smashing of nervous system etc.. Since the radiation due to both the phenomenon effect heart rate changeability and blood stress, the effect of speaking on cellular phone and use of internet is highly noticeable. Values tell even near to head while taking for 900 seconds or less parameter are increased. Calculation of the measured parameters indicated statistical momentous consequence due to cell phone exposure of 900 seconds or less on health parameters. Similarly we can calculate various parameters for health on account of Internet. The learning also reveals that there is harmful effect of electricity of high voltage too on health parameters measured in Palpitation Cords (PC) variability like cell phones. The results due to fact that power line is of high frequency, therefore it possess high energy. Human body absorbs energy of high frequency field more easily. Cells within body has bioelectric field due to bioelectric energy. The study tells there is burst impact on living species due to the use of heavy sources of radiation contamination like mobile phones , mobile towers ,internet, electricity etc. Birds are vanishing,soon one day others!

References-

1. Alain Vian *et al.* Plant responses to high frequency electromagnetic fields. *Bio Med Research International*, 2016. Ahmadi H *et al.* Electromagnetic fields near transmission lines – problems and solutions. *Iran.J. Environ. Health sci.Eng.*, 2010;7(2):181-188.
2. Bhargavi K, *et al.* Mobile Phone Radiation Effectson Human Health. *International Journal of Computational Engineering Research*, 2013; 3(4):196-203.
3. Balmori, A. Electromagnetic pollution from phone masts. Effects on wildlife. *Pathophysiology*, 2009; 16:191–199.
4. DIB Djalel and Mordjaoui Mourad. Study ofInfluence High-Voltage Power Lines on Environment and Human Health (Case Study: The Electromagnetic Pollution in Tebessa City, Algeria). *Journal of Electrical and Electronic Engineering*, 2014; 2(1): 1-8.
5. Grzegorz Redlarski *et al.* The Influence of Electromagnetic Pollution on Living Organism: The Historical Trends and Forecasting Changes. *Bio Med Research International*, 2015:18.
6. Kocbek, E., Garcia, H.A., Hooijmans, C.M. et al. Novel semi-decentralised mobile system for the sanitization and dehydration of septic sludge: a pilot-scale evaluation in the Jordan Valley. *Environ Sci Pollut Res* 29, 2022: 42016–42036
7. Kengne ES, Nzouebouet WAL, Djumyom GV, Noumsi IMK.Effect of feeding frequency on the performance of Compact Vertical Flow Constructed Wetland treating faecal sludge leachate under high hydraulic load. *Int J Biol Chem Sci* 13, 2019:68–80
8. Kalimuthu A, Forbis-Stokes AA, Ravindran J, Deshusses MA.Technical evaluation and optimization of a mobile septage treatment unit. *J Environ Manage* 277,2019:111-361
9. Kapdi M, Hoskote S & Joshi SR. Health hazards of mobile phones: an Indian perspective. *JAPI*, 2008;56: 893–97.
10. Levitt BB, Lai, H. Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays. *Environmental Reviews*, 2010; 18: 369–395.
11. Mahajan Ankur *et al.* Human Health and Electromagnetic Radiations. *International Journal of Engineering and Innovative Technology*, 2012; 1(6): 95-97.
