

Analysis of mobile tower radiation and its health effects in Champhai District of Mizoram.

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With the significant increase in mobile phone usage, possible health risks related to Rf exposure have become the subject of considerable attention. This includes effect from exposure to both cell phones and base stations. The aim of the present paper is to study different symptoms of health effects of Rf radiation from mobile tower on nearby inhabitants and those who were not exposed. Health concerns can be divided into two main categories : short term and long term effects. The short term effects include brain electrical activity, cognitive function, sleep, heart rate and blood pressure. However, the long term effects include tinnitus, headache, dizziness, fatigue, sensations of warmth, dysesthesia of the scalp, visual symptoms, memory loss and sleep disturbance, muscle problem and epidemiological effects including cancer and brain tumours . A detailed survey was conducted on people living within and beyond 50m from mobile base station, on thirteen (13) different health symptoms faced by inhabitants living near mobile tower in six different localities in Champhai district for the first time since mobile tower was erected in 2005. Power density of RF radiation have also been measured within 50m and outside 50m from the station for GSM900 and GSM1800 in the same locality. The measured power densities have been compared with standard limits given by various scientific bodies like International Commission on Non-Ionizing Radiation Protection (ICNIRP), Bioinitiative Report 2012 and current Indian National Standards . The radiation level is under permissible limits as per the guidelines adopted in India. Also the results were statistically analysed and compared by using Kruskal Walli's t-test . It was found that the comparisons are statistically significant with $p < 0.05$ in all the six localities where headache, memory loss and muscle pain are the most common health complaints. Correlation between power density and significant health complaints was studied and it has been observed that there is a strong positive correlation between power density and complaints on non-specific health symptoms.

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