6.5 CONCLUSION

The debate whether RF-EMF radiation exposure is involved in carcinogenesis is a million dollar question. Previous studies were unable to prove significantly the correlation between cell phones and health concerns which may be attributed to several factors – one such factor is not considering different frequencies on which a mobile phone works and the duration of exposure. Few new improved studies reported abnormal gene transcription, genotoxicity, DNA damage, loss of DNA repair capacity in human stem cells, neurotoxicity and carcinogenicity in humans. The present study concluded that RF-EMF exposure with higher frequencies could possibly cause changes in protein expression and leads to mutations in PTEN-mediated MTOR and β-catenin signalling pathways.

Interphone coordinated by IARC, investigated the largest case-control study in adults and determined relationship between use of mobile phone and head and neck cancers. The international pooled analysis of data of participants from various countries showed some indications of an increased risk of glioma for those reported cumulative hours of cell phone use as high as 10%. Nowadays, particularly with younger people, popularity of mobile phone use and longer duration of exposure have been observed which may lead to number of health issues including, cognitive function, sleep, heart rate etc. IARC has classified RF-EMF radiation as possibly carcinogenic to humans (Group 2B).