



Non-Ionizing Radiation & Children's Health

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PLATFORM PRESENTATION ☒

Are Children at Particular Risk? – Current Mobile Phone Studies

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Concern has been expressed about potential health effects of exposure to radiofrequency fields (RF) and about the possibility that children might be more sensitive than adults. So far, there are very few data on children available. Exposures of primary interest have been mobile phone use, environmental exposure from base stations and radio- and television transmitters, and to some extent parental occupational exposures. Outcomes have been cancer risk, well-being, cognition, behavioral problems, and reproductive effects. The largest set of studies has focused on childhood cancer in the vicinity of radio- and television transmitters, and base-stations. Although early studies with ecological design indicated a possibility of an effect on cancer risk, later more sophisticated studies with individual exposure assessment did not confirm these findings. Studies of own mobile phone use have mainly focused on well-being and behavioral problems, and exposure assessment methods have improved with the use of personal exposure meters. These studies have, however, had a cross-sectional design, which limits the conclusions that can be drawn as they lack the ability to determine the time sequence of the events, and there is a possibility of reversed causality. Maternal mobile phone use during pregnancy and behavioral problems or developmental effects has been addressed in three studies with mixed results. So far, no study on childhood brain tumor risk and mobile phone use has been reported, but there are two ongoing international studies, the CEFALO study and the MOBI-KIDS study. For the CEFALO study data collection has been finalized and results are expected 2011, whereas data collection for the MOBI-KIDS study has recently started.

Further research on children need to address the potential problem of reversed causality, e.g. does mobile phone use cause behavioral problems or does behavioral problems cause mobile phone use? This is best done by avoiding the cross-sectional design and applying sufficient latency periods. Cohort studies with prospectively collected data on exposure are recommended, if human experimental studies cannot be performed. Monitoring of childhood brain tumor incidence trends in population based cancer registries of high quality is also recommended.