

A CRITICAL ANALYSIS OF THE MOBI-KIDS STUDY OF WIRELESS PHONE USE IN CHILDHOOD AND ADOLESCENCE AND BRAIN TUMOR RISK

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A critical analysis of the MOBI-Kids study of wireless phone use in childhood and adolescence and brain tumor risk

All text below is from Dr. Joel Moskowitz. See [Electromagnetic Radiation Safety May 15, 2022](#)

In December 2021, almost seven years after data collection was completed, the main outcome paper for the International MOBI-Kids study was finally published. This case-control study examined brain tumor risk from wireless phone use among young people 10-24 years of age ([Castaño-Vinyals et al, 2022](#)).

Conducting a multinational epidemiologic study involving more than 50 scientists with data collected in 14 nations is a complex endeavor with a substantial risk of failure. Although the investigators made an exemplary effort to salvage the study via supplemental sub-studies and post-hoc analyses, after reviewing their paper, we believe they were unsuccessful in overcoming serious methodological problems. Hence, in our opinion, the data seem uninterpretable, and the study's results should be dismissed.

Due to our concerns about the MOBI-Kids paper, Lennart Hardell and I wrote a critique that we submitted to [Reviews on Environmental Health](#). After peer review the journal published our paper.

The abstract and conclusions from our critique appear below along with a link to our open access paper. Lennart Hardell, Joel M. Moskowitz. A critical analysis of the MOBI-Kids study of wireless phone use in childhood and adolescence and brain tumor risk. *Reviews on Environmental Health*. Published online May 5, 2022. <https://doi.org/10.1515/reveh-2022-0040>.

Abstract

The MOBI-Kids case-control study on wireless phone use and brain tumor risk in childhood and adolescence included the age group 10–24 years diagnosed between 2010 and 2015. Overall no increased risk was found although for brain tumors in the temporal region an increased risk was found in the age groups 10–14 and 20–24 years. Most odds ratios (ORs) in MOBI-Kids were < 1.0, some statistically significant, suggestive of a preventive effect from RF radiation; however, this is in contrast to current knowledge about radiofrequency (RF) carcinogenesis. The MOBI-Kids results are not biologically plausible and indicate that the study was flawed due to methodological problems. For example, not all brain tumor cases were included since central localization was excluded. Instead, all brain tumor cases should have been included regardless of histopathology and anatomical localization. Only surgical controls with appendicitis were used instead of population-based controls from the same

geographical area as for the cases. In fact, increased incidence of appendicitis has been postulated to be associated with RF radiation which makes selection of control group in MOBI-Kids questionable. Start of wireless phone use up to 10 years before diagnosis was in some analyses included in the unexposed group. Thus, any important results demonstrating late carcinogenesis, a promoter effect, have been omitted from analysis and may underestimate true risks. Linear trend was in some analyses statistically significant in the calculation of RF-specific energy and extremely low frequency (ELF)-induced current in the center of gravity of the tumor. Additional case-case analysis should have been performed. The data from this study should be reanalyzed using unconditional regression analysis adjusted for potential confounding factors to increase statistical power. Then all responding cases and controls could be included in the analyses. In sum, we believe the results as reported in this paper seem uninterpretable and should be dismissed.

Summary

- In our opinion, the results as reported in the MOBI-Kids paper seem uninterpretable and should be dismissed.
- All brain tumor cases should have been included regardless of histopathology and anatomical localization.
- Only surgical controls with suspected appendicitis were used. Yet, increased incidence of appendicitis has been postulated to be associated with RF radiation.
- Start of wireless phone use up to 10 years before diagnosis was in some analyses included in the unexposed group. This would bias the ORs towards unity.
- The results indicate an increased risk for tumors in the temporal brain region in spite of methodological issues based on low numbers in several categories.
- Linear trend was in some analyses statistically significant in the calculation of RF-specific energy and ELF-induced current in the center of gravity of the tumor. Additional case-case analysis should have been performed.
- The data from this study should be reanalyzed using unconditional regression analysis adjusted for potential confounding factors to increase the statistical power.

Finally, it is unfortunate that after such a major investment of resources that little can be learned at this time from the MOBI-Kids study about the risk of brain tumors from wireless phone use in young people. Since the study addresses an issue critical to public health and the majority of the funding was from the European Commission, the MOBI-Kids data set should be publicly archived making it available to the scientific community to enable the data to be re-analyzed using different assumptions and methods.

Open access

paper: <https://www.degruyter.com/document/doi/10.1515/reveh-2022-0040/html>



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