

MOBI-Kids: Study on communication technology, environment, and brain tumours in young people

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on behalf of the MOBI-Kids Consortium

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INTRODUCTION

Studies on the health effects of mobile phones are complex, and methodological limitations have complicated interpretation of results. Limitations include possible selection bias and recall errors, and difficulties of exposure assessment for electromagnetic fields. In 2011 the International Agency for Research on Cancer classified radiofrequency from portable phones as “possibly carcinogenic to humans.”

AIMS

The aim of this multinational project is to investigate the potential effects of childhood and adolescent exposure to electromagnetic fields from mobile communications technology on brain tumour risk.

MATERIALS AND METHODS

Australia, Austria, Canada, France, Germany, Greece, India, Israel, Italy, Japan, Korea, New Zealand, Spain, Taiwan, and the Netherlands (Figure 1) follow a common core protocol. The study recruits brain tumour cases and matched controls aged 10 to 24 years. MOBI-Kids builds upon the methodological experience of INTERPHONE.

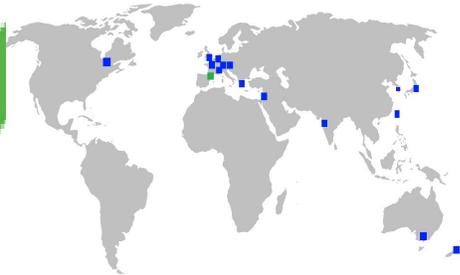


Figure 1: Map of MOBI-Kids centres

Controls are hospital-based (operated on due to suspected appendicitis, a common illness with no known association to SES or mobile phone use) to reduce potential selection bias related to low participation among population-based controls.

Detailed information is collected on potential risk factors (Figure 2).

Figure 2: MOBI-Kids detailed questionnaires

PRELIMINARY RESULTS

As of December 2012, 354 cases and 595 controls had agreed to participate in MOBI-Kids (Table 1).

Table 1: Distribution of study population

	Cases	Controls	Total
Identified	429	1002	1431
Accepted	354	595	949
Interviewed	345	525	870
Pending interview	9	70	79
Refused	52	299	351
Compliance	83%	59%	66%

Compared to INTERPHONE participants, more subjects in MOBI-Kids have ever regularly used a mobile phone (Figure 3), and have also used a phone for a longer time (Figure 4).

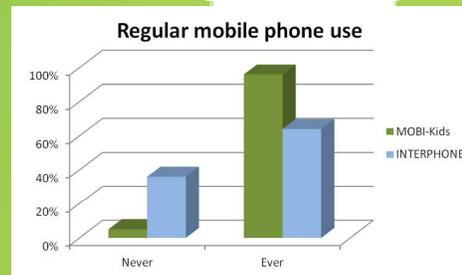


Figure 3: Regular mobile phone use

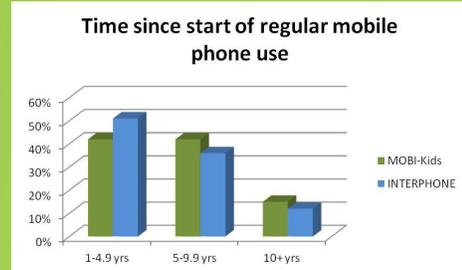


Figure 4: Time since start of regular mobile phone use

Self-reported phone use is compared to operator records and to a smartphone application recording use. Developing indices of exposure to electromagnetic fields from mobile phones and environmental and occupational sources is underway. Biological samples are collected for future analysis of genetic factors in developing this rare disease.

CONCLUSIONS

MOBI-Kids is the largest study to date addressing the risk of brain tumours in relation to mobile phone use in young people. The large sample size recruited from 15 countries, and diagnosed after mobile phone use in young people became more prevalent, increases the statistical power and overall representativeness and generalizability of the results. This study will contribute to the public’s understanding of the role of mobile phone use and the risk of brain tumours in young people.

