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Vicinity to wireless radiation sources and the prevalence of various health problems – a pilot survey

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Background and Aim: A rise in exposure to electromagnetic fields (EMF) in the general population in the last two decades (e.g. from wi-fi and mobile phone networks) coincides with a rise in prevalence of a broad array of health symptoms; often of allergic/asthmatic/oversensitivity character. Evidence is building up indicating that EMF exposure indeed is the cause of this increase, but possible harmful effects of EMF may present differently in different people and adaptation may occur. The aim of the present pilot study is to survey the possible associations between various common EMF exposure sources and a broad array of symptoms and signs. Moreover, this study will test the usefulness of a questionnaire constructed for the purpose and provide data to design larger future studies.

Methods: An electronic questionnaire asking into EMF exposure sources and subjective symptoms was posted to special interest websites. For five EMF exposure sources (mobile phone, wi-fi, occupational exposure, energy-saving lightbulbs, mobile phone towers) we assessed the association with each of seventeen health problems (e.g. sleep, cognitive, eye problems) in logistic regression models, adjusted for sex, age, urbanicity and smoking status.

Results: Sixty people responded. Significant associations were seen for a nearby mobile phone tower (more cognitive, head, eye, body and skin problems) and for constant wi-fi presence (less cognitive, eye, mouth, skin, lung and immune system problems).

Conclusions: Several significant associations were found in this broad pilot survey of possibly EMF-related health problems. Mobile phone towers seem to be the most problematic of the various EMF exposure sources; this association may well be confounded by attribution bias. The counterintuitive association of fewer symptoms with increased presence of wi-fi may be explained by selection and adaptation since the questionnaire was electronic, and people can shift to cable-based internet at home when they claim wi-fi is affecting them.