Reviewer’s report

Title: Sensitivity to electricity - a follow-up survey in Austria

Version: 1 Date: 9 May 2008

Reviewer: Martin Roosli

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The present study is a population survey about symptoms and concerns related to electromagnetic fields. The following points should be considered before publication of the results.

Major compulsory revisions

1. The study is described as a follow up. According to what is stated in the conclusions, the objective of the study was to investigate temporal change of the prevalence of EHS in Austria by comparing the new study results with two previous studies. I doubt that this aim can be achieved because this study is different compared to the two previous studies. One previous study used measurements of the perception threshold for 50 Hz field. The other previous study focussed on urban and rural clients of a power utility. Thus, not only temporal changes but also different collectives or different measurement methods may explain divergent results. This should be more explicitly discussed. I also suggest that this study is not described as a follow-up study but rather an independent study.

2. In my opinion the comparison of the risk perception with the established scientific knowledge is difficult to make. Firstly, the authors should be more specific to what kind of health risks and exposures they refer when they talk about the absence of established health risks. The scientific evidence is quite variable for different type of exposures and health effects. There is no doubt that EMF causes health effects if the exposure is large enough. Thus, I wonder what has exactly been asked in the survey. Secondly, it should also be mentioned that absence of health risk is not scientifically proven for many exposures and health effects. From this perspective, the risk perception of the population is not completely contradictory to the scientific knowledge. Thirdly, there are many more aspects that should be considered when making such a comparison (e.g. individual risk vs. population risk, etc.) Such a comparison should therefore discuss such aspects. However, in my view there is no need for such a comparison anyway.

3. I have some concerns with the method how the study participants were selected. The chosen method has the disadvantage that person that stay a lot of their time at home are markedly overrepresented. I would have preferred a random population sample with an attempt to contact all persons from an a priori chosen sample. In the last paragraph of the result section was stated that there was a high correlation between age, education and place of living. In my view the applied stratified sampling method according to age, sex and living place should
prevent from such an aggregation. The authors should explain how this could have happened. In addition, one should report the participation rate and the number of phone calls that did not resulted in a contact. I guess that not everybody contacted was willing to participate in the interview. The authors should also provide the proportion of the population that is not registered in the public phone registry. I guess that persons who have only a mobile phone are not registered. Such persons may be less likely to be EHS. All these points should first be clarified before the statement can be made that “care was taken to generate a representative sample and to overcome the problem of poor participation rate”. (discussion)

4. According to the WHO factsheet No. 296 EHS is characterized by a variety of non-specific symptoms, which afflicted individuals attribute to exposure to EMF. According to this definition 30% of this sample may be considered as electromagnetic hypersensitive. The definition of EHS that was applied in this study (physician visit) is more strict than in any previous study. Nevertheless, the proportion of EHS in this study is similar to other countries. This is a somewhat surprising finding and should be discussed and explained in more detail.

Minor essential revisions

5. The formatting of reference in the text is not correct.

6. First paragraph of introduction: Not all of the cited studies are actually negative studies. This should be corrected.

7. In the introduction the authors refer to the conclusion of a study that self declaration is extremely unreliable and usually overestimated without giving any details. I would like to know the main arguments for this statement.

8. In the introduction is stated that increased electro-sensitivity is a necessary but not a sufficient precondition for EHS. In my view this statement cannot be made. So far, research has not identified any objective criteria or biological mechanism for EHS. Thus, one cannot know what is involved with being EHS. Moreover, why should a person who claims to be hypersensitive to mobile phone radiation, have a lowered perception threshold for extremely low frequency EMF?

9. It is well known that the exact phrasing of the questions has an impact on the outcome of a questionnaire survey. Thus, the exact wording of the most important questions should be given in the paper. Were symptoms asked in an open way or was a list given? If a list was given, was the sequence of the list randomized? (The questions that are already given in the figure captions should be referenced in the method section.)

10. Only one statistical test should be used either the Kruskal-Wallis or the median test. The authors should chose the test whose assumptions fits the data best.

11. In my view meterosensitivity is not a health complaint but rather a self declared causal attribution (similar to EHS). I guess that meterosensitivity also includes headache.

12. It seems implausible that overall 57% is using a personal computer, but 56% uses mobile phone AND computer at the workplace. This would imply that there
are almost no persons who are using a computer at home only.

Discretionary revisions

13. The authors may more explicitly discuss the public health implication if such a large part of the population is disturbed by EMF in the everyday environment.

14. I encourage the authors to compare the three groups “EHS”, “disturbed” and “undisturbed” individuals more extensively. E. g. are there group differences in the health risk perception, in the avoidance pattern, in the willingness to accept health risks, or in the type of information used, etc?

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.