

September 28, 2011

## Investigating journalist Mona Nilsson:

### *Mobile phones and cancer risks*

## Scientists manipulated research on brain tumour risk for children

**On July 28<sup>th</sup> a study on brain tumour risks for children who use mobile phones was presented with press-releases to media claiming the results were "reassuring". But the study was manipulated. Contrary to the message in the press-releases, the study indicated increased risks. Furthermore there is evidence that the scientists manipulated the research in order to underestimate the risks, especially of cordless phones**

A study on the possible link between brain tumours and mobile phone use among children was presented at the end of July. According to a [press-release](#) from the Karolinska Institute in Stockholm the results were "reassuring". The [CEFALO study](#) included 352 children aged 7–19 years diagnosed with a brain tumour between 2004–2008 in four countries (Sweden, Denmark, Norway and Switzerland). The use of mobile phones by these children was compared with 646 healthy controls.

The responsible Swedish CEFALO-researcher is Professor Maria Feychting from the Institute of Environmental Medicine at the Karolinska Institute in Stockholm. Like several other CEFALO-researchers, she was involved in the international study known as INTERPHONE, assessing brain tumour risk from mobile phone use for adults. The INTERPHONE results on malignant brain tumours were published 2010 and the increased risks in that study were downplayed by the very same scientists, as the new CEFALO results.

The study on children was published in the Journal of the National Cancer Institute, JNCI. JNCI also sent out a [press-release](#), where two consultants from the International Epidemiology Institute, identified as a *product-defence firm*, argued that the results of the study were "reassuring". The study was coordinated by Martin Rösli from Switzerland and partly funded by the mobile phone industry funded [Swiss Research Foundation on Mobile communication](#). Interestingly Rösli is a member of its board. He also sent out a [press-release](#).

### **The results that were not communicated**

But the study did not show "reassuring" results. At the contrary the CEFALO study showed increased risks for children and adolescents who used mobile phones regularly (OR 1,36, CI 0,92-2,02). Table after table in the published report presents results of non-significant increased brain tumour risks, in some cases also significantly. The risk increased both with latency and by time that had elapsed since the child had its first mobile phone subscription. These findings were present despite the short follow up time and low usage compared to the usage of today's adolescents.

**"The results are reassuring because they are compatible with chance"**

Asked how the results can be "reassuring" despite all the various analysis in the study show increased non-significant brain tumour risks, Rösli replied:

- Results are reassuring because they are non-significant and thus are compatible with chance.

Accordingly the results are "reassuring" because the increased risks are not 95% certain (the traditional threshold of statistical significance).

### **"In fact, there are significant risks"**

Professor Joel Moskowitz, Director of Center for Family and Community Health, School of Public Health University of California, claim however that the CEFALO-study was biased towards not finding an association. Among others he points to the fact that the study sample size was simply too small which limited the ability to detect a 95% significant association between cell phone use and brain tumours:

- As implemented, the study could only detect a 45% increased risk as statistically significant. This means that if the investigators had 550 cases in the study and the overall result was similar, then the 36% increase in brain tumors reported for "regular" cell phone users would most likely have been statistically significant!

Swedish oncologist and epidemiologist, Lennart Hardell, participated in IARC:s evaluation of cancer risks in May, when mobile phone radiation was classified as *possibly carcinogenic*. Hardell's team has conducted similar studies and where teenagers were at increased brain tumour risks. Hardell's opinion is that the CEFALO study indicates an increased risk:

- In fact there are significantly increased risks and the risks increase with increased use.

### **The cordless phones**

The most intriguing part of the CEFALO study is how the researchers analysed risks with the use of cordless phones. Cordless phones emit the same kind of radiation as mobile phones. In spite of this the researchers handled the cordless phone use very differently. The CEFALO-researchers wrote: "Children's use of cordless phones was not related to brain tumour risk, for the group with highest amount of use."

### **The strange first 3 years limit**

It is only the readers who read the report very carefully that understands that the CEFALO scientists present results of brain tumour risks from child and teenage use of cordless phone *restricted to the first three years of use*. This important restriction is only written in a footnote below the table 6 and not at all in the text section where the cordless phone results are presented.

Asked about this strange scientific method, Rösli replies:

- As I said we were interested in early cordless phone use to investigate long latency. Regarding shorter latencies, mobile phone use is a more relevant exposure source and if microwave is a risk it would appear with the mobile phone use data. Thus, we saw no need to focus also on short-term latency with respect to cordless phone use. Rösli also claimed that studying the total use of cordless phones would require too much resources:

- You cannot prove all hypotheses with one study, unless you make a very long interview which may not be acceptable to the study participants.

### **Refused to send the questionnaire**

The explanation of the 3 years limit is so strange that it has to be controlled. Did the researchers really do what they claim? The parallel would be scientists restricting questions on smoking to the first 3 years in a study on lung cancer risks, then ignoring if smoking increased substantially during the years thereafter. This seems inconceivable.

I therefore ask both Martin Rööslı and Maria Feychting to send the questionnaire. Both refused. However, the draft CEFALO questionnaire could be obtained from the Ethical Review Board at the Karolinska Institute.

### **The missing question**

The CEFALO questionnaire finally obtained from the Ethical Review Board at the Karolinska Institute does not include the question that Rööslı claimed that they asked and that he explicitly stated in a written email:

- *How often did (child) speak on cordless phone in the first 3 years he/she used it regularly?*

Only 5 questions (of 267 in total) are asked about use of cordless phones.

The questionnaire is very long including questions about contact with sheep, goats, reptiles and snakes. 38 questions about exposure to cigarette smoke. The claim that it would demand too much resources to investigate more than the 3 first years use of cordless phone exposure simply cannot be justified on the basis of the rest of the questionnaire.

### **Little interest for EMF-exposure**

Neither did the researchers investigate if exposure to other sources of EMF, for example proximity to power lines or high EMF exposure in the home, were related to brain tumour risks. The non-interest for these factors from the CEFALO-researchers is strange since EMF, like mobile phone radiation is classified as 2B, "possibly carcinogenic" mainly based on studies from Maria Feychting who had found that proximity to power lines was a risk factor for childhood leukaemia. The Norwegian CEFALO researcher Tore Tynes presented [results](#) in 2005 showing elevated brain tumour risks related to residential EMF exposure.

The increased risks presented by Tynes in 2005 were like the CEFALO-results non-significant. Contrary to the "reassuring" presentation of the non-significant increased brain tumour risks in the new mobile phone study on children, Tynes wrote that he found *elevated risks* for brain tumours in 2005:

*We found an elevated risk for residential exposure to magnetic fields and brain tumours, although the risk was not significant, and no clear exposure-response pattern was found. (OR = 1.6; 95% confidence interval 0.9-2.7 and OR = 1.3; 95% CI 0.7-2.3).*

### **Design for a zero-risk result**

The CEFALO-researchers handling of the cordless phones raises suspicions that the study was designed for a zero-risk result. If only the results of the first three years of use are reported, and the total use of cordless phones not added to that of mobile phones, the chance of finding a brain tumour risk is severely reduced. Also the CEFALO researchers did not consider cordless phone users as exposed when calculating the odds ratios for the mobile

phone use. What would the results have been, if both exposures had been properly considered?

Children normally increase their telephone use when they become teenagers. That aspect is also confirmed by the CEFALO-researchers: The average use of mobile phones in the age group 7-14 years was only 4 minutes/day but for the age group 15-19 years it was 13 minutes a day.

*What are the effects of restricting the analyses to the first three years?*

- It will lead to an underestimation of risks. We know that telephone use increase with age and that teenagers talk more than children, says Lennart Hardell

The CEFALO-researchers has either amended their question or asked the question as in the questionnaire I obtained from the Karolinska Institute and thereafter decided to restrict the presentation of cordless phone use to the first three years. This seems to be a serious manipulation of research.

Röösli participated in a Swiss study presented 2009, which showed that, for 166 adults studied in detail with personal RF exposure meters, cordless phone exposed the studied persons for similar amount of radiation as a mobile phone:<sup>1</sup> *“Mobile and cordless phone radiation is an important exposure source”*, the researchers, including Röösli, wrote.

- Near a base station, a mobile phone will actually work and considerably lower power than a fixed-power cordless phone, explains Alisdair Phillips from the British organisation Powerwatch.

### **The industry interest of zero-risk**

Analyses have found that research funded by mobile phone industry tends to show zero-risk results. Scientific results showing health risks with mobile phone radiation is a serious threat to the industry:

*“ Any perceived risk or new scientific findings of adverse health effects of mobile communication devices and equipment could adversely affect us through a reduction in sales or through liability claims.”*, the Swedish mobile phone company Ericsson wrote in the annual report 2010.

*Mona Nilsson*

*Mona Nilsson is a Swedish investigating journalist and author of two books on mobile phone and health risks. Her most recent book, Mobile phones and health (Mobiltelefonins hälsorisker), was published in 2010. In May 2011, she uncovered that one of the world-leading experts on mobile phone health risks, Anders Ahlbom, was a board member of a lobbying firm, Gunnar Ahlbom AB and that he had failed to report this conflict of interest to the IARC. She also revealed that the brother of Anders Ahlbom, had been a lobbyist in*

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<sup>1</sup> Frei et al.: Classification of personal exposure to radio frequency electromagnetic fields (RF-EMF) for epidemiological research: Evaluation of different exposure assessment methods; Environment International 36 (2010) 714–720

*Brussels for the telecommunications industry for many years, an aspect that Anders Ahlbom also had failed to declare along the years.*

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