From: Ppsi Ppsi [mailto:ppsi@aol.com]
Sent: Friday, December 11, 2015 2:30 PM
To: Nambiar, Madhusoodana
Subject: Fwd: Update on International Scientist Appeal on Electromagnetic Fields & Wireless Technology

Madhusoodana Nambiar
Regulations Staff
Office of the Center Director
Center for Devices and Radiological Health, U.S. Food and Drug Administration
Building WO66, 5572
10903 New Hampshire Ave
Silver Spring, MD 20993

Dear Mr. Nambiar:

Please add these 4 emails below to our PPSI citizens Petition, (CP) docket Number ...FDA-2013-P-1374 on cell phone safety issues.

Any news on a possible hearing or when the committee will take a look at this CP ?

Best,

Fred

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-----Original Message-----
From: Joel MOSKOWITZ <jmm@berkeley.edu>
To: CHE-EMF <cheemf@lists.healthandenvironment.org>
Sent: Tue, Dec 1, 2015 11:12 am
Subject: Update on International Scientist Appeal on Electromagnetic Fields & Wireless Technology

Update on International Scientist Appeal on Electromagnetic Fields & Wireless Technology

The International EMF Scientist Appeal has been signed by 222 scientists from 40 nations. All have published peer-reviewed research on electromagnetic fields and biology or health. In addition, nine scientists who have published peer-reviewed research on related topics have signed this petition.

The Appeal calls on the United Nations, the UN member states, and the World Health Organization to adopt more protective exposure guidelines for EMF and wireless technology in the face of increasing evidence of health risks.These exposures are a rapidly growing form of worldwide environmental pollution.

Go to **http://bit.ly/saferappeal** to see which countries have the most signatories and media coverage in more than two dozen nations.

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Recent posts on **Electromagnetic Radiation Safety** website:

International Scientist Appeal on Electromagnetic Fields & Wireless Technology

Brain Tumor Rates Are Rising in the US: The Role of Cell Phone & Cordless Phone Use
Children are more exposed to cell phone radio-frequency radiation than adults
Effects of Cell Phone Use on Adolescents
Effect of Mobile Phones on Sperm Quality
Electromagnetic Hypersensitivity

Government Failure to Address Wireless Radiation Risks
Cellphone Industry Product Liability Lawsuit
FCC Process Reform Act of 2015

Cell Tower Health Effects

Wi-Fi in Schools & Other Public Places
Recent Research on WiFi Effects

Wireless Radiation TV News
Secondhand Exposure to Cell Phone Radiation: An Emerging Public Health Problem?

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Electromagnetic Radiation Safety

Website: http://www.saferemr.com
Facebook: http://www.facebook.com/SaferEMR
News Releases: http://pressroom.prlog.org/jmm716/
Twitter: @berkeleyprc

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U.S. Government Failure to Address Wireless Radiation Risks

For more than two decades, Federal health agencies have argued that we don't have conclusive evidence of harm from exposure to non-ionizing electromagnetic fields (EMF) emitted by wireless devices, including cell phones, cordless phones, baby monitors, and wireless wearables. Yet, we do not have any compelling evidence that our everyday exposure to EMF from wireless devices is safe.

Today ***Microwave News*** published an exposé about the failure of the U.S. **National Institute of Environmental Health Sciences** (NIEHS) to report the results of a $25+ million project to assess the cancer risk of wireless radiation in laboratory animals. The study was proposed by the National Toxicology Program in 2001. Preliminary results have been released to industry, but not to the press or the public. NIEHS has refused to release project documents under the Freedom of Information Act (FOIA).

In June, journalist Norm Alster published an exposé that provides insight into how the FCC, the Federal agency that regulates wireless radiation, became a victim of regulatory capture by the industry it is supposed to regulate. He discusses the implications for our health and safety of the wireless industry's corrupting influence on the FCC.

<snip>

It is time for the U.S. and other governments to adopt the recommendations of the ***International EMF Scientist Appeal*** with regard to electromagnetic fields ...

http://bit.ly/govtfailwireless

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One in 161 Americans (0.62%) will be diagnosed with brain or other central nervous system (CNS) cancer during their lifetime according to the Central Brain Tumor Registry of the United States. The risk is greater for males (1 in 144 or 0.69%) than females (1 in 182 or 0.55%): About three out of four people (74%) who develop brain or CNS cancer will die from this disease.

The risk of being diagnosed with a non-malignant (i.e., non-cancerous) brain or CNS tumor is about twice as great (14.75 vs. 7.23 per 100,000 per year).

For information about brain tumor incidence and trends over time and the link between wireless phone use and brain tumor risk see**"Brain Tumor Rates Are Rising in the US: The Role of Cell Phone & Cordless Phone Use" at http://bit.ly/risingtumors.**

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Twitter: @berkeleyprc

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Two recently published studies on adolescents report harmful effects of mobile phone use.

A cross-sectional study found that adolescents who were awakened by a mobile phone at least once a month during the night were more likely to report tiredness, rapid exhaustibility, headache and physical ill-being. A prospective cohort study found that greater wireless radiation exposure predicted lower memory test performance.

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Symptoms and Cognitive Functions in Adolescents in Relation to Mobile Phone Use during Night

Schoeni A, Roser K, Röösli M. Symptoms and Cognitive Functions in Adolescents in Relation to Mobile

Phone Use during Night. PLoS One. 2015 Jul 29;10(7):e0133528. doi: 10.1371/journal.pone.0133528. eCollection 2015.

Abstract

Many adolescents tend to leave their mobile phones turned on during night, accepting that they may be awakened by an incoming text message or call. Using self-reported and objective operator recorded mobile phone use data, we thus aimed to analyze how being awakened during night by mobile phone affects adolescents' perceived health and cognitive functions.
In this cross-sectional study, 439 adolescents completed questionnaires about their mobile phone use during night, health related quality of life and possible confounding factors. Standardized computerized cognitive tests were performed to assess memory and concentration capacity. Objective operator recorded mobile phone use data was further collected for 233 study participants. Data were analyzed by multivariable regression models adjusted for relevant confounders including amount of mobile phone use. For adolescents reporting to be awakened by a mobile phone during night at least once a month the odds ratio for daytime tiredness and rapid exhaustibility were 1.86 (95% CI: 1.02-3.39) and 2.28 (95% CI: 0.97-5.34), respectively. Similar results were found when analyzing objective operator recorded mobile phone use data (tiredness: 1.63, 95% CI: 0.94-2.82 and rapid exhaustibility: 2.32, 95% CI: 1.01-5.36). The cognitive tests on memory and concentration capacity were not related to mobile phone use during night. Overall, being awakened during night by mobile phone was associated with an increase in health symptom reports such as tiredness, rapid exhaustibility, headache and physical ill-being, but not with memory and concentration capacity.
Prevention strategies should focus on helping adolescents set limits for their accessibility by mobile phone, especially during night.
Conclusion
Among Swiss adolescents, we have observed that nocturnal mobile phone use was associated with an increase in health symptom reports such as tiredness, rapid exhaustibility, headache and physical ill-being, but not with memory and concentration capacity. More studies to investigate these associations are necessary and education in sleep behaviour may be inevitable since the mobile phone is now the most familiar lifestyle factor for adolescents.
Public Health prevention strategies should focus on helping adolescents set limits for their accessibility by mobile phone, especially during night.
Open Access Paper: http://1.usa.gov/1NeP2lJ

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Memory performance, wireless communication and exposure to radiofrequency electromagnetic fields: A prospective cohort study in adolescents

Schoeni A, Roser K, Röösli M. Memory performance, wireless communication and exposure to radiofrequency electromagnetic fields: A prospective cohort study in adolescents. Environ Int. 2015 Oct 13;85:343-351. doi: 10.1016/j.envint.2015.09.025. [Epub ahead of print]

Abstract

BACKGROUND: The aim of this study is to investigate whether memory performance in adolescents is affected by radiofrequency electromagnetic fields (RF-EMF) from wireless device use or by the wireless device use itself due to non-radiation related factors in that context.

METHODS: We conducted a prospective cohort study with 439 adolescents. Verbal and figural memory tasks at baseline and after one year were completed using a standardized, computerized cognitive test battery. Use of wireless devices was inquired by questionnaire and operator recorded mobile phone use data was obtained for a subgroup of 234 adolescents. RF-EMF dose measures considering various factors affecting RF-EMF exposure were computed for the brain and the whole body. Data were analysed

using a longitudinal approach, to investigate whether cumulative exposure over one year was related to changes in memory performance. All analyses were adjusted for relevant confounders.

RESULTS: The kappa coefficients between cumulative mobile phone call duration and RF-EMF brain and whole body dose were 0.62 and 0.67, respectively for the whole sample and 0.48 and 0.28, respectively for the sample with operator data. In linear exposure-response models an interquartile increase in cumulative operator recorded mobile phone call duration was associated with a decrease in figural memory performance score by -0.15 (95% CI: -0.33, 0.03) units. For cumulative RF-EMF brain and whole body dose corresponding decreases in figural memory scores were -0.26 (95% CI: -0.42, -0.10) and -0.40 (95% CI: -0.79, -0.01), respectively. No exposure-response associations were observed for sending text messages and duration of gaming, which produces tiny RF-EMF emissions.

CONCLUSIONS: A change in memory performance over one year was negatively associated with cumulative duration of wireless phone use and more strongly with RF-EMF dose. This may indicate that RF-EMF exposure affects memory performance.

http://1.usa.gov/1M6BCHW

Excerpts

... From a public health point of view potential effects of chronic exposure are more relevant, which needs to be investigated with epidemiological studies. So far there has only been one community-based epidemiological study investigating effects of mobile phone use on adolescents' memory. Abramson et al. (2009) showed in a cross-sectional analysis of 317 seventh grade students from Australia that mobile phone use was associated with faster and less accurate response on a number of tasks involving the memory. Since similar associations were found in relation to the number of SMS (short text messages), which produces negligible RF-EMF exposure, they speculated that these behaviours may have been learned through the frequent use of a mobile phone and may not be the consequence of mobile phone radiation. In a follow-up investigation one year later, in 236 of these students, an increase in mobile phone use was associated with a reduction in response time in one out of three tests involving the memory (Thomas et al., 2010). This study relied on self-reported mobile phone use only, which has been shown to be inaccurate. Adolescents tend to substantially overestimate their amount of mobile phone use (Aydin et al., 2011; Inyang et al., 2009).

Regular mobile phone use may affect adolescents in various ways. Thus, the main challenge for research consists in differentiating between RF-EMF radiation effects and other non-RF-EMF related effects from mobile phone use. For instance, frequent texting or gaming on a mobile phone may facilitate cognitive processes (Abramson et al., 2009). It was also observed, that calling and sending texts during night was associated with poor perceived health symptoms such as tiredness, rapid exhaustibility, headache and physical ill-being (Schoeni et al., 2015; Van den Bulck, 2007). Other studies showed that frequent mobile phone use was associated with anxiety (Jenaro et al., 2007), unhealthy lifestyle (Ezoe et al., 2009), depression (Yen et al., 2009) and psychological distress (Beranuy et al., 2009). Thus, to address RF-EMF effects of wireless communication devices, the development of a RF-EMF dose measure, which incorporates all exposure relevant factors, is inevitable.

Memory performance was assessed with a standardized, computerized cognitive test battery (IST, Intelligenz-Struktur-Test 2000R (Liepmann et al., 2006)). Verbal and figural memory was measured with the subtest of the IST. In the verbal memory task, word groups have to be memorized in one minute time. After 1 min the study participants give an account of theword groups that have been memorized. In total 10 points can be achieved by remembering the correct word groups. In the figural memory task, pairwise symbols have to be memorized in one minute time. After 1 min one part of the pairwise symbols is shown and the matching part has to be found. A total of 13 points can be achieved. For both the verbal and figural tests, 2 min is given to complete the test. Memory performance is considered as the right number of remembered word groups or symbols, respectively. For the statistical analyses of verbal and figural memory the continuous test score values
were used as outcome. Every test was conducted once at baseline and once at follow-up investigation.

In this study we considered objectively recorded data on mobile phone use collected from the Swiss mobile phone operators as well as self-reported data on wireless communication devices usage obtained from a written questionnaire referring to the 6 months period prior to each examination. In terms of RF-EMF related exposure measures we inquired about call duration with own or any other mobile phone (referred to as duration mobile phone calls), call duration with cordless
(fixed line) phone and duration of data traffic on the mobile phone, e. g. for surfing and streaming. The duration of gaming on computers and TV and number of all kind of text messages (SMS, WhatsApp etc.) are not, or only marginally relevant for RF-EMF exposure and were thus inquired to be used as negative exposure control variables in the analyses.

Informed consent to obtain objectively recorded mobile phone use data from the mobile phone operators was given by 234 out of 439 study participants and their parents. This included duration of each call and on which network (GSM or UMTS) it started, number of SMS (text messages) sent per day and amount of volume of data traffic (MB/day). Data were obtained for up to 18 months, 6 months before baseline until follow-up investigation.

A particular strength of this study is the longitudinal design. To the best of our knowledge this is the first longitudinal study on memory performance in adolescents using not only mobile phone call duration as an exposure proxy, but calculating RF-EMF dose measures derived from objectively recorded operator data and propagation modelling. Compared to a cross-sectional design where changes over time cannot be assessed andwhere reverse causality is of concern, longitudinal studies allow for more robust conclusions.

.. Most relevant contributors for the brain dose are calls on the GSM network (on average 93.3% for the whole sample based on self-reported data and 58.7% for the sample with operator data using operator recorded information) followed by calls with the cordless phones (4.2% and 21.0%, respectively). For the whole body dose, calls on the GSM network (on average 66.9% for the whole sample and 19.5% for the sample with operator data), the use of computer/laptop/tablet connected to WLAN (12.0% and 29.1%, respectively) and data traffic on mobile phones over WLAN (8.1% and 22.3%, respectively) counted for the most part. Less important for the dose measures were exposure from radio and TV broadcast transmitters (brain dose: 0.1% and 0.4%, respectively; whole body dose: 0.3% and
0.9%, respectively) and mobile phone base stations (brain dose: 0.6% and 3.5%, respectively; whole body dose: 2.0% and 4.8%, respectively).

... media usage measures which are not, or only marginally associated with RF-EMF were not associated with figural memory performance (e.g. sending text messages, playing games, and duration/volume of data traffic on the mobile phone). On the other hand, mobile and cordless phone use,which involves RF-EMF exposure, tended to be negatively correlated, although not statistically significant, whereas the dose measures were significantly correlated in many
models. The relative high correlation between dose measures and self-reported and objectively recorded mobile phone call duration respectively, limits the possibility to disentangle effects due to RF-EMF exposure or due to other factors associated with mobile phone use.

Since we found stronger associations between RF-EMF doses and figural memory but not verbal memory, one could speculate that this might be due to different brain areas involved in the verbal and figural memory tasks. The type of information being processed determines the brain activity during encoding and retrieval and as a consequence brain activity patterns during figural memory tasks differ fromthose observed during verbal memory tasks. During figural memory processes, encoding elicits bilateral prefrontal activity and retrieval increases the activity in bilateral or right-sided temporal regions and in bilateral prefrontal regions (Beason-Held et al., 2005; Roland and Gulyas, 1995; Wagner et al., 1998). During verbal encoding increases in prefrontal and temporal brain activity in the left hemisphere can be seen (Heun et al., 2000; Iidaka et al., 2000; Reber et al., 2002; Strandberg et al 2011) and during verbal retrieval the activity in bilateral or rightsided prefrontal regions, bilateral or left-sided temporal regions and the anterior cingulate are increased (Beason-Held et al., 2005; Buckner et al., 1998; Cabeza et al., 1997). Stronger overall effects observed for figural memory processes predominantly involving the

right hemisphere compared to the verbal memory tasks mostly involving the left hemisphere is compatible with the fact that 81.2% of the study participants reported at follow-up to mainly use mobile phones on the right side but only 18.8% on the left side or with no laterality preference. Strikingly, our laterality analyses indicated indeed stronger associations for right side users for the figural memory task whereas the reverse pattern was seen for the verbal task. However, the sample size of the laterality analysis was small for the subgroup with left side or no side preference for mobile phone use (n= 80).

We considered a number of potential confounders and adjusted model estimates were relatively similar to the crude model estimates, which indicates that confounding seems not to have a substantial impact on the results. Nevertheless, we cannot exclude that we have missed a relevant confounder ....

Conclusion

The observed striking pattern with more consistent associations for RF-EMF dose measures compared to usage measures and no indications of associations for negative control exposure variables may indicate that RF-EMF exposure affects the figural memory of adolescents. However, given the complex correlation structure for various exposure measures and the uncertainty in the RF-EMF dose calculation, the observed associations need to be interpreted with caution.

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These two studies are posted on my Electromagnetic Radiation Safety web site at http://bit.ly/saferemrteens.

Also see newly posted studies on WiFi and cell phone health effects and on cell tower health effects.

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Electromagnetic Radiation Safety

Website: http://www.saferemr.com
Facebook: http://www.facebook.com/SaferEMR
News Releases: http://pressroom.prlog.org/jmm716/
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Best,

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