



Thursday, October 23, 2003 METRO

Mother-to-be wins

tle

MOBILES ALERT

MOBILE PHON HEALTH WATCH SUNDAY Mirror

MOBILE PHONES

aths

Idiopathic Environmental Intolerance – Electrical Sensitivity.

Institute of Psychiatry
King's College London

Radiation from mobile phones

David Watt

Mobile phones

bl

sp

Funded by the Mobile
Telecommunications and Health
Research programme
(www.mthr.org.uk)

James Rubin
Gary Hahn
Rosa Nieto
Brian Everitt
Anthony Cleare
Simon Wessely

By Tim Ut Science Reporter

Mobile phones to carry health warning

- Electrosensitivity is a diverse condition.
- What insights can provocation studies provide?
- Will the precautionary principle help or hinder?

- Electrosensitivity is a diverse condition.
- What insights can provocation studies provide?
- Will the precautionary principle help or hinder?

Surveys

- The “Mainzer EMF-Wachhund” (n=192)

Schuz et al. Bioelectromagnetics 2006;27:280-7

- The Essex survey (n=698)

Eltiti et al. Bioelectromagnetics 2007;28:137-51

- The Roosli survey (n=394)

Roosli et al. Int. J. Environ. Health 2004;207:141-150

- The Hillert survey (n=167)

Hillert et al. Scand J. Work Environ. Health 2002;28:33-41

- The California survey (n=68)

Levallois et al. Environ. Health Perspectives 2002;110 Suppl 4:619-23

Almost any device...

People with EHS can react to EMFs from a huge range of sources:

- Televisions
 - Mobile and digital cordless phones
 - Fluorescent lights
 - Computer monitors (VDTs, VDUs)
 - Laptop computers, when used with mains adapters
 - Powerlines
-
- Thyristors, systems used to control power in appliances such as vacuum cleaners
 - Signalling circuits for cable TV
 - Geopathic stress – disturbances in the Earth's fields.
-
- Substations
 - Mobile phone base station masts
 - Underground electric cables
 - Electric fields due to house wiring
 - Telephones, answering machines and faxes
 - Some new, upmarket cars, especially those equipped with RF CANBUS, or Bluetooth-enabled systems
 - Electrical 'noise' in trains, underground trains, trams, buses and cars
 - Wireless enabled laptops
 - Electronic 'anti-theft' tagging scanners at the exits to many department stores.
 - Refrigerators
 - Freezers
 - Electric cookers (including induction hobs)
 - Vacuum cleaners
 - Battery-operated appliances
 - Fish tank heaters or lights
 - Photocopiers
 - Lamps with attached or built-in transformers
 - Dimmer switches
 - Burglar alarms
 - Low-energy, mercury and sodium lights
 - Fuse panels
 - Water and gas pipelines with associated 'net' currents
 - Uninterrupted power supplies (UPS)
 - Hearing-aid induction loops
 - Room fans
 - Electronic medical procedures, especially MRI scans
 - Daylight
 - Weather changes
 - Laser beams in supermarkets

...but some are more common than others

- Mobile phone basestations
- Mobile phones
- Cordless phones
- Powerlines
- Broadcast transmitters

Roosli et al. Int. J. Environ. Health 2004;207:141-150

Almost any symptom...

- “overall, 114 different health complaints were reported” *Roosli et al. Int. J. Environ. Health 2004;207:141-150*
- About 100 symptoms have been reported by sufferers *Irvine ISBN 0 85951 570 2;2005 [box 3]*
- “[of the 30 symptoms we asked about], except for impaired vision, EH subjects always reported more strong to severe health symptoms” *Schuz et al. Bioelectromagnetics 2006;27:280-7*
- “all [12] symptoms were considerably more frequent among persons who had ES” *Hillert et al. Scand J. Work Environ. Health 2002;28:33-41*
- “In our study [ES sufferers] had worse general health in almost every respect.” *Rubin et al. J Psychosom Res 2007*

Rapid or Delayed Onset?

- “Within a few minutes” of exposure (53%)
- “Within a few hours” of exposure (21%)
- “Within a few days” of exposure (17%)
- (Symptoms tend to take slightly longer to go, than they take to appear).

- Electrosensitivity is a diverse condition.
- What insights can provocation studies provide?
- Will the precautionary principle help or hinder?

Your basic provocation study

- Get a group of willing volunteers, with rapid onset symptoms
- Real exposure on day 1, sham on day 2
- Do it double blind
- Randomise the order of exposures
- Allow a decent “wash out” period
- Check Participant feels ok at the start of each session
- Ask them how they feels after each session

What is out there?

- 31 provocation studies (n=725) in *Rubin et al Psychosom Med 2005;67:224-32*
- Since then, another 10 studies (n=342)

Wilén et al Bioelectromagnetics 2006;27:204-214

Regel et al Environ Health Perspect 2006;114:127-5

Eltiti et al Environ Health Perspect 2007;115:1603-1608

Rubin et al BMJ 2006;332:886-891

Oftedal et al Cephalalgia 2007;27:447-55

Soo Kwon et al Bioelectromagnetics 2008;29:154-9

Hillert et al Bioelectromagnetics 2008;29:185-96

Bamiou et al Bioelectromagnetics 2008;29:108-17

Frick et al Bioelectromagnetics 2005;26:287-98

Langrebe et al Psychol Med 2008;on-line first

What is out there?

- Largely relate to short VDU or Mobile Phone exposures
- Measure short term symptoms

What do they show?

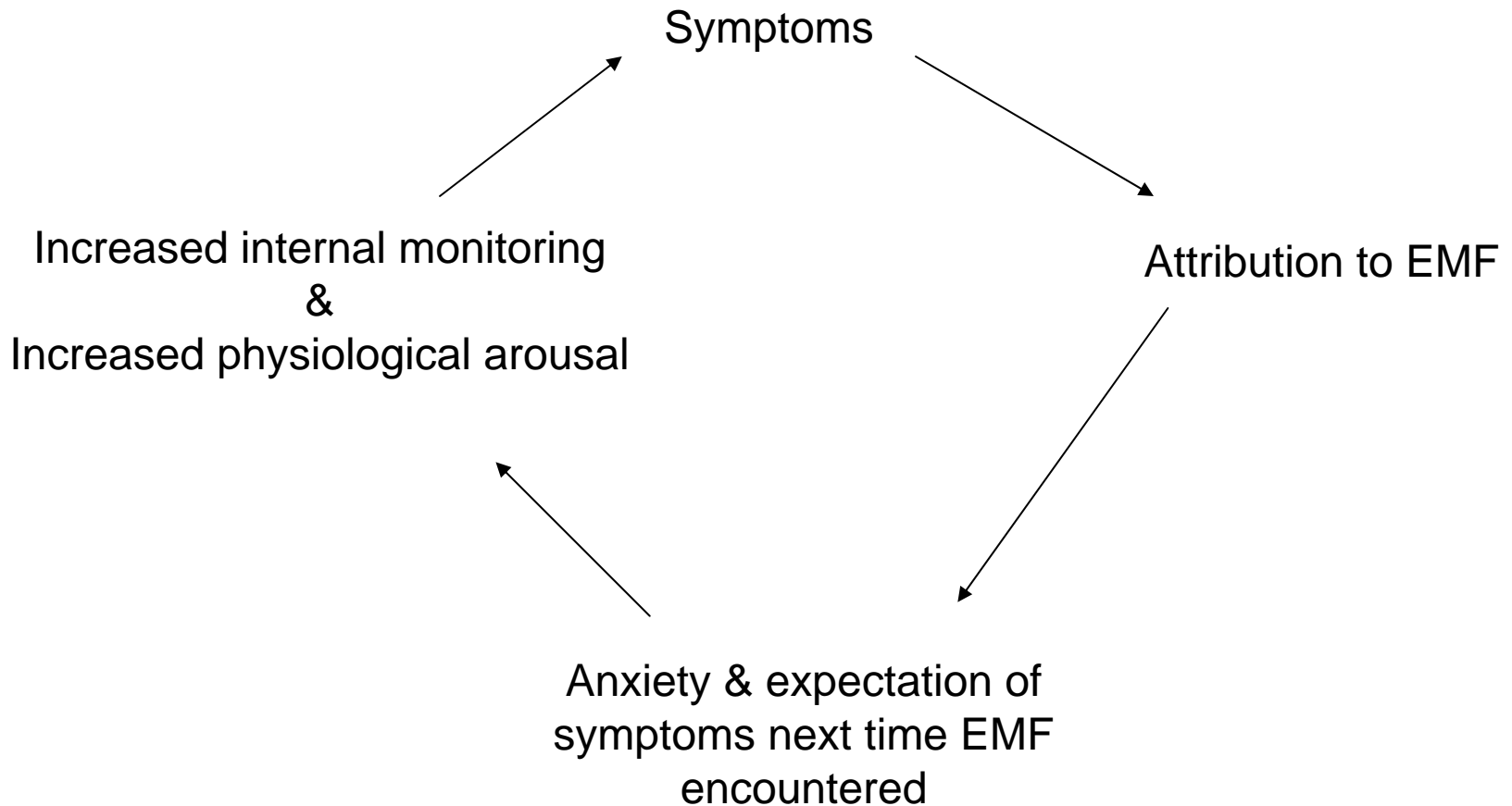
- “It has proved difficult to show under blind conditions that exposure to EMF can trigger these symptoms” *Rubin et al 2005*
- More recent studies support this conclusion.
- Nocebo effect is often found.

Limitations

- No shielding (or too much shielding)
- The 'real' exposure is missing a vital component
- The sham exposure isn't completely 'off'
- Worst cases can't take part

- What about chronic symptoms?
- What about WiFi / TETRA / UMTS / ...?
- What if only a minority really have ES?

Is there another explanation?



Is there any evidence for that?

- Yes
- You can create ‘sensitivities’ in people in the lab (*e.g. Van den Bergh et al. Behav Res Ther 1995;33:517-27*)
- Concern about substances predicts symptoms in real life (*e.g. Petrie et al Psychosom Med 2005;67:778-82*)

- Electrosensitivity is a diverse condition.
- What insights can provocation studies provide?
- Will the precautionary principle help or hinder?

Precaution makes people anxious

- **In the lab** (*Wiedemann & Schuz Environ Health Perspect 2005;113:402-5*)
- **and in the real world**
(*Barnett et al Health Policy 2007;82:240-50*)



Alarmist reporting can help trigger conditioning

- Media Warnings About Environmental Pollution Facilitate the Acquisition of Symptoms in Response to [Harmless] Chemical Substances.

Winters et al, Psychosom Med 2003;65:332-8

The precautionary principle

- Makes people anxious
- Makes people more likely to attribute symptoms to the precautionary thing
- Might increase levels of electrosensitivity?
- **Be cautious about precaution**