

Dealing with electrical hypersensitivity: policy options



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Where are we now?

- NRPB advises government on exposure guidelines for electromagnetic fields (EMFs)
- Some people believe they suffer symptoms from exposure to a range of electromagnetic fields encountered in everyday life.
- Many also believe that there are serious long-term risks associated with such exposures.
- They feel that electrical hypersensitivity should be recognised
- Should steps should be taken to decrease EMF exposure using national exposure guidelines?



A public health needs assessment of electrical hypersensitivity

- to describe and define electrical hypersensitivity using sources such as the scientific literature, grey literature and personal anecdote
- to examine its overlap with other conditions such as multiple chemical sensitivity
- to review the information on course, prognosis and effective treatments
- to explore whether there is a role for NRPB in terms of prevention, management, public information, reflecting electrical sensitivity in exposure guidelines
- to produce a report of the work that can be published on the NRPB website and/or in other scientific literature



Advantages of taking a public health approach

- It's how all other diseases are tackled
- Systematic approach using validated tools
- Considers wider societal aspects and accounts for similarities with other conditions
- Considers the condition in relation to the health of the population as a whole
- Includes sufferer's perspective
- Incorporates methods of defining benefits as well as harms of technologies, treatments etc
- Incorporates consideration of the 3 levels of preventing ill health
- Includes an understanding of ways to evaluate measures taken to improve health



Possible policy options?

- First define the condition
- Then decide what to do about it



Definition of electrical hypersensitivity

- As a stand alone condition or
- As part of a spectrum of related conditions

Either of these can be:

- On the basis of symptoms and/or signs
- On the basis of the exposures thought to cause symptoms (an aetiological process)
- On the basis of biomedical investigations (a pathophysiological process)
- Include consideration of natural history and prognosis



Methods: literature review

Medline/PsychINFO

- Electrical hypersensitivity
- Electrical sensitivity
- Electromagnetic hypersensitivity
- Electrosensitivity
- Electromagnetic fields
- Electricity
- Environmental illness
- Hypersensitivity
- Dermatitis
- Visual display

Google

Electrical sensitivity

- Electrosensitivity
- Electrical hypersensitivity
- Electromagnetic sensitivity
- Electromagnetic hypersensitivity
- Electrical oversensitivity



Review questions I

- What kind of symptoms do subjects experience? How severe are they? Are they different or similar for different perceived exposures?
- What type of exposures are believed to trigger these symptoms? What is the time course for triggering? How consistent is the triggering?
- Was there a precipitating exposure event that caused the problem?
- How do subjects determine they are sensitive to EMFs?



Review questions II

- How has the reported sensitivity affected a person's daily activities, their social roles and their self-image?
- Do people who report electrical hypersensitivity (ES) have similarities (demographic, co-morbid conditions, psychological characteristics)?
- Compared to others in the population, what do people with ES know about EMFs? ■
- Do reports of ES vary in different populations (people with different diseases, different cultural experiences, victims of technological disasters)?
- Are there laboratory correlates with some discernible group who reports ES?



Draft findings

Definition of electrical hypersensitivity

- Sensitivity or hypersensitivity?
- The review found it impossible to construct even a symptom-based case definition of ES.
- Skin complaints predominate in Sweden. Overall the most common ES symptoms are neurasthenic symptoms, headache and skin symptoms.
- All ES symptoms are commonly reported in the general population (prevalence range 5-60%).
- Sufferers and support groups describe a wider range of symptoms and diseases as ES than the peer reviewed literature.

Draft findings

Definition of electrical hypersensitivity

- Initial reports of ES were linked to visual display unit (VDU) exposure
- Now suggested that people who are ES can react to most types of energy within the emf spectrum. The attribution of symptoms to VDUs and fluorescent lights remains a Nordic phenomenon.
- No characteristic demographic profile of sufferers.



Draft findings

Prevalence of electrical hypersensitivity

- Prevalence of ES not well established. Skin syndrome can affect up to 50% of users in some Swedish reports.
- Definition is complicated by the high prevalence of ES symptoms in the general population.
- Estimates in the published literature range from less than a few per million - a few per thousand, severe cases generally 10x lower.
- The condition may be progressive with development of persistent symptoms regardless of exposure.
- Patients with skin-only symptoms, (Sweden), have a benign prognosis.



Draft findings

Aetiology of electrical hypersensitivity

- Overlap between ES and other symptomatic syndromes.
- Review of provocation studies of ES subjects: information awaited



Efficacy of proposed treatments I

All proposed interventions should be based on evidence that they do more good than harm. There is no problem in combining approaches.

Primary Prevention.

- There is little evidence to suggest that changes to any particular parameter of EMF exposure guidelines would be helpful.
- Public information and product labelling may have a part to play but is also constrained by lack of knowledge about which particular parameter of EMF exposure is important.



Efficacy of proposed treatments II

Secondary Prevention.

- There is little evidence to guide the management of affected individuals.
- The electromagnetic hygiene strategies widely advocated by sufferers and their support groups are not supported by the few relevant published studies available.



Efficacy of proposed treatments III

Tertiary Prevention/Treatment.

- Similarity to other symptomatic syndromes and environmental illnesses prompts clinicians to adopt largely psychologically based management strategies. The very limited studies to date point to some success.
- Other options are pharmacological and behavioural.
- Avoidance of EMF exposure is a mainstay of advice for the ES sufferer in patient group material.
- Various alternative medical therapies are promoted but there is a lack of published evaluation.



Future Research

- Acceptance that EMF has a causal role in ES would have widespread implications for future policy on prevention and management.
- It impossible to construct even a symptom-based case definition of ES. This has major implications for the future study of ES using a conventional epidemiological approach and in particular makes any findings population-specific.
- Useful information could be gained from surveys of ES sufferers identified through support group networks. However, in the absence of validated effective treatments, the wisdom of case-finding may be questioned.

