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✓ Medical Faculty of Gazi University

Istanbul 9-10 June 2004
EMF: A potential environmental risk for children?

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Sensitivity of Children to EMF: Workshop Istanbul 9-10 June 2004
Children have been identified as a target for health protection by WHO.
Established in 1996

To assess health and environmental effects of exposure to electromagnetic fields in the frequency range from 0 to 300 GHz

A multinational, multidisciplinary effort to create and disseminate information appropriate to human health risk assessment for EMF

Coordinated by WHO
Structure

EMF Project Secretariat

International Advisory Committee
Research Coordinating Committee
Standards Harmonization Committee

International Organizations
Collaborating Institutions
>50 National Authorities

>50 National Authorities
Objectives

– To provide a status report on current knowledge related to possible health effects of EMF

– To identify gaps in knowledge that need further research leading to better health risk assessments
• **Frequency-related**

- Static and low-frequency fields, Bologna, 1997
- Intermediate frequency fields, Maastricht, 1999
- Radio frequency fields, Munich, 1996
- RF pulse-modulated fields, Erice, 1999
specific topics

- Psychosocial impacts of EMF exposure, Graz, 1998
- Environmental impacts of EMF, Ismaning, 1999
- Adverse temperature levels in the human body, Geneva, 2002
- Applying precaution to EMF, Luxembourg, 2003
- Children and EMF
- Hypersensitivity
WHO Health Risk Assessment

- EHC 35 Extremely low frequency (ELF) fields (1984)
- EHC 69 Magnetic fields (1987)
- EHC 137 Electromagnetic fields (300 Hz-300 GHz) (1993)
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http://www.who.int/emf
WHO Research Agenda

Research needs

• identified when the evidence for a health risk is judged **suggestive, but insufficient** to meet the criteria for assessing health risk….Children??

• established on the basis of **unconfirmed effects** having implications for health, and **replication** of key studies to confirm effects

**Goal**: To promote studies that demonstrate a reproducible effect of EMF exposure that has the likelihood to occur in humans and has a potential health consequence
Children are known to be more sensitive to exposure to many environmental agents (chemicals, UV, ionizing radiation etc)…what about EMF?

ELF magnetic fields are a 2B carcinogen (possibly carcinogenic to humans) based on childhood leukaemia epidemiological studies.

IEGMP (Stewart committee) suggested that children may be more vulnerable to RF field exposure because:
- Developing nervous system
- Brain tissue is more conductive
- Greater absorption of RF in head
- Longer life-time exposure
Technology is advancing

New York 1893

Today
Children are exposed to technology

- Recent UK survey (25% children 7-10 years have a mobile phone)
- In Germany use among 12-13 year olds increased from 3% (1998) to 69% (2002)
- Child exposure is beginning at younger ages!!
Key Issues on Research Agenda
Effects of EMF on Children

- Stewart Report (UK: IEGMP 2000)

- Health Council of the Netherlands (2002) did not find evidence to suggest children more sensitive

- EC: COST 281 workshop (2002) noted children's heads absorb more RF than adults

- Review by NRPB (2003) suggests there has been little research to determine if children are more sensitive to RF fields
Motivation

✓ Rapid increases in EMF exposure from new technologies
✓ Lack of research to assess the sensitivity of children to EMF
✓ Known sensitivity of children to some environmental agents

Need a specialized workshop to

➢ Assess what is known about possible health effects
➢ Identify research needed to fill gaps in knowledge so better assess any risks to children
➢ Compile a research agenda for the research community
➢ Recommend policy options for national authorities…are special precautionary measures needed?
Workshop speakers

Emphasis given to presenters with specialization in child development and physiology but not associated with EMF...will facilitate enlightened discussion with EMF specialists
Workshop outputs

- Summary report to peer-reviewed journal
- Book of abstracts of all presentations
- Proceedings of speakers presentations (Environmental Health Perspectives, special issue)
- EMF Project web site
- WHO Fact Sheet and Press Release for a press conference with UN Press Corps
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