EMF Recommendations Specific for Children?

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EMF recommendations specific for children?

— YES, of course and by all means when there’s a risk
— Yes, when there are scientific uncertainties
— Yes, when there are known gaps in knowledge
— NO, when science concludes that there’s no risk

Translation of scientific evidence into legal frameworks, information on scientific knowledge, protection measures and precautionary recommendations

→ Communication to non scientists and lay persons
→ Risk perception and risk communication comes into play
Putting science into societal context

— Risk communication: bridging two different points of view

• **Science:**
  – Scientific knowledge
  – Risk assessment

• **Risk Communication:**
  – Science Communication
  – Risk Perception
  – Risk adequate behaviour
  – Characteristics of recipients
  – Meet the needs of target groups
Risk perception: different for ELF, RF, UVR

— ELF:
  • Public perception moderate
  • Local focus on high voltage power lines

— RF:
  • Parts of the public: high risk perception, mainly base stations
  • Concerns about children’s health: focus mobile phones
  • High media coverage

— UV:
  • High knowledge about risk in general public
  • No adequate / sufficient protective behaviour
  • Adults protect their children better than themselves
Worries about health risks due to EMF for the own children

Worry about children: health risks due to EMF (n=564)

- Little concerns: 44%
- Considerable concerns: 22%
- Strong concerns: 18%
- No concerns at all: 16%

Reason for worry about children (n=551)

- Mobile phone use: 47%
- Mobile phone base stations: 23%
- Use of a cordless landline phone: 6%
- Other EMF sources: 18%

Personal concerns in population: 16 % considerable concerns, 7 % strong concerns

Hartmann, Belz (Infas) 2010

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Personal wish for further information about mobile telecommunication and health

More information is wished for…

- Assessment of health risks: 89%
- Personal possibilities of precaution: 80%
- Children’s use of mobile phones and mobile telecommunication: 79%
- Prevalence of EMF in everyday life: 78%
- Characteristics of EMF: 74%
- Health-relevant aspects at buying mobile phones: 72%
- Responsible authorities: 63%
- Other information: 14%

(n=844)

Hartmann, Belz (Infas) 2010
Communicating scientific uncertainties and recommendations for precautionary measures

— Increase in risk perception?
— Decrease of trust in regulatory bodies?
— Refusal of information because of confusion?
— In case of children:
  • Role of parental emotions in protecting their children as best as possible?
  • Unintended consequences, e.g. higher exposure of children due to false behaviour adjustment?
— Different information processing behaviour plays a big role: motivation and ability to deal with new information
Recent studies (I) on effects of communicating precautionary measures and scientific uncertainties


— Age of participants 17 – 43, average 22
The effect of mentioning precautionary measures on risk perception

Wiedemann et al. 2006

(mean values)

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Effects of the disclosure of uncertainty in knowledge on risk perception, trust and assessment of current knowledge

Wiedemann et al. 2006
Recent studies (II) on effects of communicating precautionary measures and scientific uncertainties

— P. M. Wiedemann, S. Löchtefeld, F. Claus, S. Markstahler, I. Peters (2009): Lay person adequate communication of scientific uncertainties in the field of EMF

— Main results: Effects of reporting uncertainty depend on the reference case
  • R1: Uncertainty about the hazard
  • R2: Uncertainty about the risk magnitude
  • R3: Uncertainty about the risk protection

— Participants: Students
Results: Reporting uncertainties about hazard identification (R1)

<table>
<thead>
<tr>
<th>Question</th>
<th>U0</th>
<th>U1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think the text raises fears?</td>
<td>2.93</td>
<td>3.29</td>
</tr>
<tr>
<td>What do you think is the magnitude of the risk described in the text?</td>
<td>3.91</td>
<td>3.58</td>
</tr>
<tr>
<td>Does the text raise doubts for the technical qualifications of the risk evaluation?</td>
<td>3.96</td>
<td>4.94</td>
</tr>
<tr>
<td>Is the risk information clear and unambiguous?</td>
<td>4.59</td>
<td>5.91</td>
</tr>
<tr>
<td>How understandable is the text?</td>
<td>6.60</td>
<td>6.28</td>
</tr>
</tbody>
</table>

Wiedemann et al. 2010

Figure 1: Results R1, mean values (and 95% confidence intervals) of the dependent variables for the two levels of factor “uncertainty” (U0: no information about uncertainty, U1: information about uncertainty)
Results: Reporting uncertainty about risk protection (R3)

Figure 5: Results R3, mean values (and 95% confidence intervals) of the dependent variables for the two levels of factor “uncertainty” (U0: no information about uncertainty, U1: information about uncertainty)
Children are different than adults – a specific challenge to risk communication

— Different ability and willingness to modify behaviour

— Perceived self efficacy plays a crucial role in health behaviour – development in childhood and adolescence

— Cognitive development (knowledge, fears, etc.)

— High readiness of mind

— Ritualisation of behaviour

— Role model learning
  • In (early) childhood: Parents
  • In adolescence: Peers, other adults

— Protection by parents (White et al. 2007: Children were perceived to be at more risk from the technology in general than other adults)
Ways to modify children’s behaviour

— Regulatory frameworks

— Address parents / care persons:
  • Adjust their own behaviour to protect their children and
  • To be role models for their children

— Address children / health education:
  • Education in family, social environment, peer groups, nursery school, at school
  • Important role in forming and influencing individual behaviour

— Special multipliers and competent authorities for children’s protection → sound scientific information!
Recommendations

— Recommendations should be part of children’s living world

— Use of parental action motivation: protection of their children
  → Recommendations for children = recommendations for adults on how to protect their children

— Be careful with fear appeals

— Concerted actions: address children AND their education persons (parents, teacher, nursery school teacher)

— Important to reach students at a young age:
  • Older children become less receptive to interventions
  • More challenge to change attitudes and alter behaviours
What is needed by risk communicators?

— Clear information on scientific knowledge, knowledge gaps (known and unknown...), uncertainties, reason for uncertainties
— Clear statements on risk assessment and risk evaluation
— Clear information, which health consequences might be possible or are impossible
— Clear recommendations from a scientific point of view, if precautionary measures (and which) could be a good measure
Conclusions

EMF-specific recommendations for children? YES!
- As soon as you see a risk
- When you tend to appeal to protective behaviour of children/their parents

— Risk communication has to consider that one might address parents with more or less young children
— Risk communication regarding health of children: more sensitive
— Communicating scientific uncertainties: provide information on the range of possible consequences for children’s health
— Provide different information levels
Thank you for your Attention!