



IMPROVEMENT OF INFORMATION ON THE NUCLEAR ENERGY HEALTH EFFECTS, THE AIM OF WIN SLOVAKIA

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Introduction

The methods of the radiation risk communication to the general population is not always on the sufficiently qualified level in our country. This can be the cause of the lack of interest, even opposition and fear among the population, including the young generation as far as the nuclear energy and the application of the radiation sources is concerned. After all, this is not a specific problem of Slovakia. It concerns other countries too, as it is demonstrated by a great number of articles and studies devoted to the perception of the radiation, to the assessment of the communication methods and to the methods of comparison with the potential risks from other sources.(air-craft accidents, AIDS, chemical pollution etc).

In our contribution we would like to summarize some known results concerning the communication of the risk probability and the possible health effects of radiation to laymen based on the serious conclusions of the epidemiological studies and on the modeling of the various situations.

Activities WIN Global and WIN Slovakia

There are very few institutions which professionally deal with the problem of the stochastic risk comparison as a basis for more effective communication in the nuclear energy.

From this point of view we consider the role of women and young generation in the radiation risk communication as very essential and important.

In this respect international organisation WIN Global and our national organisation WIN Slovakia (women in nuclear) which as a section of Slovak Nuclear Society, offer unique opportunities for the improvement of radiation risk communication.

WIN Global was established in 1993 and currently has about 600 members in 39 countries. Our national WIN Slovakia was established in the end of 1997 and has 20 members.

WIN Slovakia is the association of women working professionally in the fields of nuclear energy and application of radiation and willing to devote time to public information.

While most of the members of WIN are employed in nuclear energy sector, there are some members working in the other areas, where nuclear technologies are utilised. The membership includes for example women working in medicine and health care, in regulatory authorities, industry and the independent researchers. We are sorry there are no members in WIN Slovakia from the university intitutions so far.

WIN is open to men supporting the goals of WIN.

WIN's principal objective is to emphasise and support the role that women can and do have in addressing the general public's concerns about nuclear energy and the application of radiation and nuclear technology. WIN can do this through educational

programmes, information exchange and arranging study visits. There is no difference among the goals of our national organisation and WIN Global.

Members of WIN Slovakia all have one thing in common: They want the general public to have a better understanding of nuclear and radiation matter. The members of our organisation would like and plan to make presentations, discuss and give information material on subjects as:

energy and sustainable development
radiation, radioactivity, and health effects
medical applications, radiation protection
nuclear energy, uranium mining
nuclear power plants and their safety
radioactive waste
nuclear and environment
natural radiation, radon

Risk perception and some results of research in Slovakia

Nuclear power is a questionable source of energy, because of the perceived risks connected with it. Acceptance of nuclear technology depends on the assessment of both advantages and disadvantages. Underlying only the benefits is not enough. It is very important to explain the risk too. One of the most important methods of communication for improving the risk information among the population is the method of mutual comparison of the various types of risks. People perceive usually risks and behave accordingly without knowing the real risk. An understanding of people perception of risk and factors that influence the risk perception is the essential basis for risk communication.

Radiation is an emotionally involving issue, which avokes a wide range of reactions and arguments. To be accepted a risk management policy must be transparent and trustworthy. Much have been written about social and cultural influences on construction of radiological risk and the need of information and education of the people. The best way to understand the public's view of various applications of ionizing radiation is to ask people directly by means of interview and surveys

In 1996-1997 a comparative risk perception study was carried out in Slovakia[1]. Real data were collected through the administration of a questionnaires distributed among a group of 14-17 years old children ($N_1 = 308$) and teenagers ($N_2=150$).

Respondents were asked to indicate the degree of health risk associated with various types of risks (tab1) [2]. This list of 44 items covered a wide range of risks and hazards, including risks from technology (nuclear power plants, waterdams etc.) pollution (air-, water-, soil, waste management) nature (floods, fire, etc.), life style (smoking, drugs, alcohol abuse) and society (crime, conflicts, war, terror etc.)

The questionnaire contains the questions about the sources of risks information. The topic of the study was the self assesment of the knowledge on particular risks too (four point scale - very good, good, weak, no knowledge)

The results can be summarized in the following conclusions:

1) Hierarchy of the perceived risks has shown, that as the most threatening ones at present are the risks associated with nuclear power (radioactive waste, radioactivity, nuclear power plant) and the degradation of environment (air-, water-, soil- pollution, chemical in food). Smoking, alcohol and medicine abuse, noise etc. received less attention.

2) Media seem to be the most frequent information resource on most of the risks in the group of 14 -17 years old children as well as in the group of teenagers. The weakest risks information resource seems to be the school.

3) Both children and teenagers evaluated their own knowledge on particular risks as good, or weak. But the most frequent answers indicating the level „no knowledge“ were connected with the risks in the nuclear power, social and sports related risks.

Tab. 1: List of various risk and threats

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|---|---|
| 1. Criminality (violence, robbery, mafia) | 23. Alcohol |
| 2. Mountaineering | 24. Conflicts among people |
| 3. Traffic accidents | 25. Medicine abuse |
| 4. Smoking | 26. Overcrowding |
| 5. Unemployment | 27. Radioactivity |
| 6. Radioactive waste from nuclear power station | 28. Swimming |
| 7. Skiing | 29. Soil pollution |
| 8. Drug abuse | 30. Cancer |
| 9. Computer games | 31. Gambling |
| 10. Divorce | 32. Diseases due to the effect of the environm. |
| 11. Water pollution | 33. Extreme groups (skinheads...) |
| 12. Cycling | 34. Waterworks Gabčíkovo |
| 13. Terrorism | 35. Chemical substances in food |
| 14. War conflict | 36. Floods |
| 15. Football | 37. Lack of money |
| 16. Nuclear power station | 38. Dams |
| 17. Political instability in the country | 39. Epidemics (typhus, plague) |
| 18. Dams | 40. Loss of relatives and friends |
| 19. Noise | 41. Lack of food |
| 20. AIDS | 42. Fires |
| 21. Unwanted parenthood | 43. Animal-transmitted diseases? |
| 22. Air pollution | 44. Loneliness |

Conclusion

On the basis of this research and similar studies there exists evidence that if we want to put the radiation risk into perspective we have to improve the risk communication among the specialists and laymen. The campaign for the improvement of the risk communication must be started in schools.

After the Chernobyl accident Ministry of health elaborated the special programme of education concerning the nuclear energy and radiation risk in regular education process for the primary and secondary schools, but this programme has not been realized so far. It is urgently recommended to return to the educational programme and put it in force in an innovated form.

We have to address the people to create the open discussion of risks, perception and valuation which will lead to understanding and mutual confidence. From this basis it is possible to add the information about benefits, needs and other possibilities as environmental advantages, sustainability and responsibility

By the communication with female groups having concerns about nuclear, the risks has to be explained and put in perspective. It is even possible to reach the point, where nuclear will be judged as one of the green alternatives.

Literature

- 1 Rosová,V., Rošková,E., Bianchi,G.: Vnímání rizik v dětské populácii na Slovensku, AEUC 1996, 8, s.76-86
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