

Poster: The role of individual differences in reduction of negative consequences of nuclear accidents on health and well-being

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Results and Discussion

Introduction

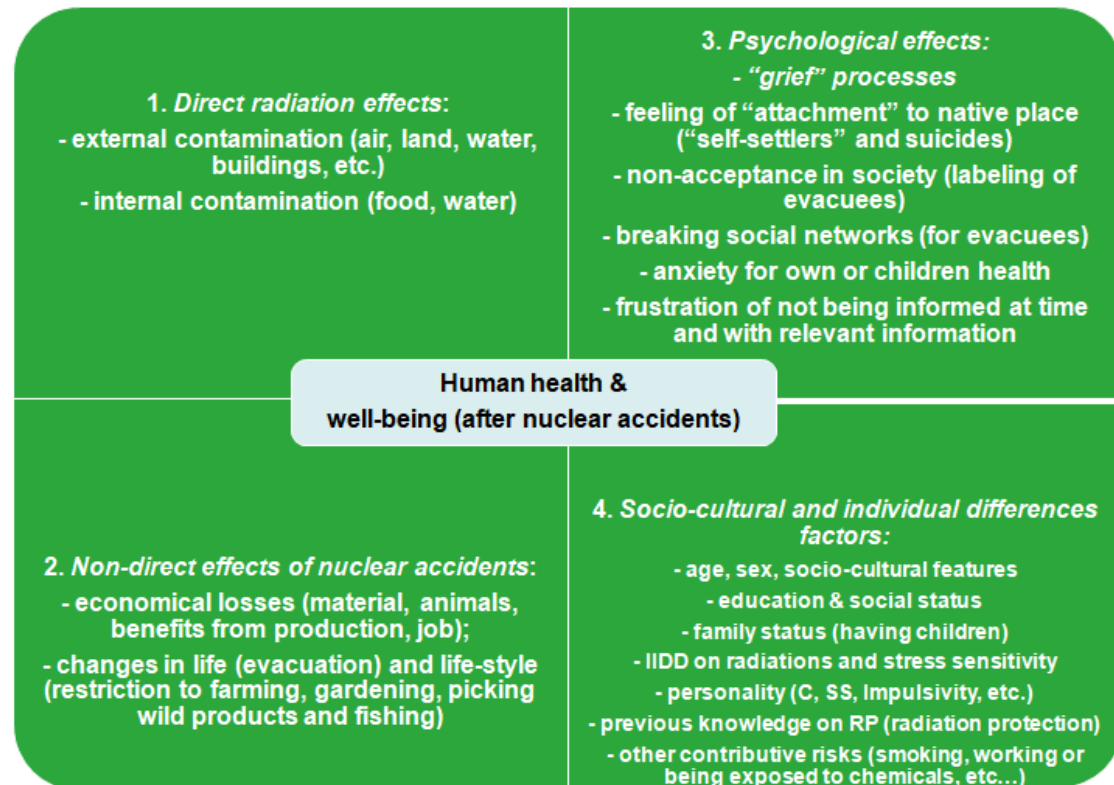
-> among effects on **mental health aspects related** to the major nuclear accidents: stress, anxiety, etc... (Havenaar, Bromet & Gluzman, 2016 and other researchers).

Methods

Bibliographical review: scientific & mass media publications, also considering **testimonies** from affected populations (Chernobyl and Fukushima).

The most influential factors with regards of Radiation Protection (RP) behaviour in post-accidental period as a preventive measure by reducing negative impacts on health and subjective well-being:

- **Age**
- **education** and **formation**
- **previous knowledge** on radiation, RP and RPC
- **family status** (mothers with children as more vulnerable population)
- **personality** (conscious & prudent behaviour vs. impulsive & risky or ignorance)
- **stress coping** strategies
- **emotional intelligence**
- **flexibility and adaptation** to changes in environment and life style
- **capacity to resilience** processes
- other **individual differences** on having other complementary risks factors (smoking, working or to be exposed to other chemicals, etc.)



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Conclusions

Though it is difficult to make clear separation of direct radiation effects on health vs. to psychological ones; *but* the behavioural maladaptation (observed in post-accident period, related to reaction on external influences) and other **individual differences** can **minimize or maximize stress effects**.

Nuclear disasters are **complex** in their effects; however, both health and well-being can be protected by **constructive adaption to changes occurred** and **resilience** that depend also on individual differences.

Acknowledgements: This work was elaborated during the SHAMISEN project (Grant Number 604984, OPERRA of the European Union Seventh Framework Programme (EURATOM)) and supported by SHAMISEN SINGS project (grant agreement No 662287).

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Background

The main effects on mental health aspects related to the Chernobyl Nuclear Power accident (ChNPP) were listed by Havenaar, Bromet & Gluzman (2016) with prevalence of stress and anxiety. Stress symptoms and anxiety levels were higher in residents of contaminated areas; moreover, radiation exposure was perceived to be the most dangerous compared to social and economic risks. Stress disorders had peaks due to lack of relevant information in post-accident period (1989) and after magnifying its negative consequences in reports (1993) (Yevelson et al., 1997). Parkes (1997) concluded that both individual differences and environmental together with situational factors are crucial for stress coping styles and scores.

Method

Bibliographical review of scientific and mass media publications related to the consequences of major nuclear accidents was performed, also considering testimonies from affected populations (Chernobyl and Fukushima).

Results and Discussion

The most influential factors with regards of Radiation Protection (RP) behaviour in post-accidental period as a preventive measure by reducing negative impacts on health and subjective well-being:

- Age
- education and formation
- previous knowledge on radiation, RP and RPC
- family status (mothers with children as more vulnerable population)
- personality (conscious & prudent behaviour vs. impulsive & risky or ignorance)
- stress coping strategies
- emotional intelligence
- flexibility and adaptation to changes in environment and life style
- capacity to resilience processes
- other individual differences on having other complementary risks factors (smoking, working or to be exposed to other chemicals, etc.)

1. Direct radiation effects:
 - external contamination (air, land, water, buildings, etc.)
 - internal contamination (food, water)

2. Non-direct effects of nuclear accidents:
 - economical losses (material, animals, benefits from production, job);
 - changes in life (evacuation) and life-style (restriction to farming, gardening, picking wild products and fishing)

3. Psychological effects:
 - "grief" processes
 - feeling of "attachment" to nativeplace ("self-settlers" and suicides)
 - non-acceptance in society (labeling of evacuees)
 - breaking social networks (for evacuees)
 - anxiety for own or children health
 - frustration of not being informed at time and with relevant information

Human health & well-being (after nuclear accidents)

4. Socio-cultural and individual differences factors:
 - age, sex, socio-cultural features
 - education & social status
 - family status (having children)
 - mood on radiation and stress sensitivity
 - personality (O.S.A., impulsivity, etc.)
 - previous knowledge on RP (radiation protection)
 - other contributive risks (smoking, working or being exposed to chemicals, etc.)

Individual differences and personality are important factors to reduce negative impact on health and well-being after nuclear accidents.

Conclusions:

Though it is difficult to make clear separation of direct radiation effects on health vs. to psychological ones; the behavioural maladaptation was observed in post-accident period, related to reaction on external influences and other individual differences that can minimize or maximize stress effects.

Nuclear disasters are complex in their effects; however, both health and well-being can be improved or protected by constructive adaption to changes occurred and resilience that depend also on individual differences.

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