A Role for Medical Professionals during a Radiation Disaster: Effective Risk Communication

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Information and recommendation differ from “specialist” to “specialist”

I simply cannot bear Cesium

I cannot believe the recommendation by outsider

There are too much information of “Bq”, “Sv”

I feel there are double standard between Tokyo and Fukushima

Can I continue football training if I return back to hometown?
The Fukushima Health Management Survey
The Mental Health and Lifestyle Survey

What do you think is the likelihood of **damage to your health (e.g., cancer onset)** in later life as a result of your current level of radiation exposure?

- **Very likely**: 17958, 30%
- **Likely**: 15094, 25%
- **Unlikely**: 13906, 23%
- **Very unlikely**: 13345, 22%

**2012 Jan- Oct**

- **Very likely**: 6607, 29%
- **Likely**: 4953, 21%
- **Unlikely**: 7235, 31%
- **Very unlikely**: 4391, 19%

**2014 Feb**
The Fukushima Health Management Survey
The Mental Health and Lifestyle Survey

What do you think is the likelihood that the health of your future (i.e. as yet unborn) children and grandchildren will be affected as a result of your current level of radiation exposure?

2012 Jan- Oct
- Very likely: 9174 (15%)
- Likely: 15241 (25%)
- Unlikely: 14827 (25%)
- Very unlikely: 20978 (35%)

2014 Feb
- Very likely: 5327 (23%)
- Likely: 6807 (30%)
- Unlikely: 5839 (25%)
- Very unlikely: 4992 (22%)
People **evacuated** from NPP around area.

Evacuees transferred from shelters to temporary **houses**. Some of them entered to apartments.

Evacuees received a certain amount of monetary **compensation**.

Local government and many groups had big **lectures about radiation knowledge**.

,etc.

**Governmental Action**

- Problems and anxieties has changed to **concrete issues**, depend on real life. However, governmental approach should cover all individuals equally.
- Their **personal problems** remained.
Health Consultation

• We started health consultation May, 2012 with local governments (public health nurse) of evacuation areas.

• Target: Residents

• We accept all kind of health consultation.

• 3,955 cases (FY2012-2014).
Problems in the Health Consultation

- Physical problems------------------- 1611/2189 cases
  Knee pain, Obesity, Hyperlipidemia, etc.

- Mental problems---------------------- 261/2189 cases
  Insomnia, Alcoholism, etc.

- Radiation problems/anxieties----- 222/2189 cases
  Effects for children, Safety of home-made vegetable, Thyroid cancer risk, etc.

Radiation anxiety account for approximately 10% of all...
Problems in the Health Consultation
FY 2014

- Physical problems: 84%
- Mental problems: 11%
- Radiation problems/anxieties: 4%

Percentage of radiation anxiety has decreased
Many people don’t want to think about radiation recently.

However, most people don’t know the actual situation.
I could not tolerate to be bothered by “Radiation” any more.

I’m sick and tired of radiation issues.

It is too late. We already irradiated.
Problem based on the Difference of Radiation Risk Perception

- Many people could not update the information and perception at the time of crisis.
- Someone afraid the conflict between individuals induced by the difference in perception of radiation risk.
- Radiation health issue is under “Taboo”. It is difficult to discuss frankly.
- Their radiation anxiety were hidden deeply.
There is not Unified Criterion of Acceptable Risk

- Less than accepted risk in usual.
- As same as natural status.
- The best balance from a cost-effectiveness perspective.
- Maximum protection: No possibility of health effect.
- Provable risk (security): No proven risk of health effect.

Professionals and citizens have differing criteria of acceptable risk. Worse still, they speak without seeing their own criterion.
Non-Radiation (Social) Issues

Reason people don't try to face up to radiation issue
- People consider as man-made disaster.
- So, people have a target of angry.
- They tend to blame everything on that target.

Reason people hesitate to open up their mind
- Monetary compensation induce conflict between NPP evacuees and others.

Real problems in refuge life
- Some town had depended social foundation on neighbor NPP located towns.
- There is not football or baseball club in junior high school of my original town.
• Some people confuse safety assessment of Fukushima’s daily life with energy policy.
• If someone said safety of Fukushima’s food or environment depend on the scientific data, some people consider that person as advocate of NPP.
• On the other hand, “humanist” should say “Fukushima’s life is danger”.

Belief Thought Bog
Easy-to-Understand Information is not Enough

• Usually, people leave the issue of radiation risk up to expert or government and they don’t think about radiation risk by themselves.
• Expert and government prepare and response based on the relations of trust.
• People pay attention to expert or government respond in a sincere manner or not.
• However, confidence crisis came after the disaster.
• Easy-to-understand information is not enough.
Conventional Risk Communication

• To facilitate the activities of industry/companies in the surrounding society (citizens).
• Engineers were communicators.

• Society regard such communicators as a tool of industry/companies.
• Society could not think that engineer/physicist value citizen’s health.

【Mistrust of Expertise】

What is the essential factor of “Trust”?
So, who can care such situation?

• Principle of “Trust” is “To share significant values and goals”. (Salient Value Similarity Model)

• Basis of radiation anxiety is health anxiety.

• Goal of medical professional is “Resident’s overall health”.

• Medical professionals are the best suited for the communicator of radiation anxieties.
Medical Professionals as Communicator

• Before the disaster, few medical professionals focused interest on radiation health risk and possibility of radiation disaster.

• Even after Fukushima accident, many of medical professionals think about radiation health risk as out of their field.

• Radiation issues are not someone else's problem.

• Medical professionals had been considered as guidelines for people’s action.

• The medical doctor's word is worth more than another person's one.
Japanese people had not custom to recognize the risk and to choose by themselves.

→ People want to “Zero-Risk”.

- Illustration by familiar scales; Length, Largeness or Weight, etc.
- Comparison with other risk is reasonable to convey the quantitative perspective.
- We sometime discuss about “Concept of risk, Rough guideline”. How can we evaluate this situation? Do we need detailed analysis ad infinitum?
How Can We Explain the Radiation Risk to Residents

**Daily Life, and Real Problems in Refuge Life**

- It is hard to realize because of un-sensate.
- Japanese people had not custom to recognize the risk and to choose by themselves.
  → People want to “Zero-Risk”.
- Illustration by an familiar scale: Size, largeness or weight
- Comparison with other health risk is reasonable to convey the quantitative perspective.
- We should choose example carefully. Some kind of risk is not good example.

**Important Bridge between Citizens and Experts**

- Local key person they are trusted by local community
- Local Medical Professionals

Local Area

- Public Nurse
- Experts
How to Face to Resident’s Anxieties

• Purpose of risk communication is
  1. to support the citizen’s understanding of level of risk.
  2. to support the citizen’s own decision.
• People need to understand the risk by themselves if they want to feel secure.
• If they leave a decision up to someone, they cannot remove the anxieties completely, and they will peg the blame on someone in future.

But, just because resident own action (study, measurement„„,) does not mean effective
Residents observe “new supporter (=outsider)” is reliable or not, during consultation.

They could not express their taboo to unreliable “new supporter”

If they decide “supporter” is reliable, they express their radiation related anxieties.

It requires high levels of **humanity**.

Local Medical Professionals Should be Front Line of People’s Anxieties
• Radiation problems/anxieties-----4 %

Problems in the Health Consultation (FY 2014)

• Low Percentage of Consultation about Radiation Anxiety is the Symbol of
  1. “Taboo” and
  2. “Hardness of reliability for Outside Supporter”
More than Attentive Hearing and Sympathy

Sharing the Same Values and Trust

Self Communication
“Awareness-Raising”

Systematic Approach, Information Distribution

Attentive Hearing and Sympathy

• Approve ambivalence and thinking together
• Should be proactive in thinking.

• Provide quantitative analysis of current situation and suggestion as a **healthcare professional**.
Our Social Approaches

• **Individual** health consultation (3,955 cases, FY2012-2014)

• **Small group discussion** with evacuees or residents (specific group; young mothers, etc.)

• Public nurse support
  – Education

• Training the **local communicators** → Trusted information source

• Training the **local health consultants** (medical professionals)
**Before Accident**

- Strengthened civil society
- Not to ignore the risk
  - What is radiation
  - Can we accept the risk of nuclear accident?
  - Other risks in our life

**For the Own Community**

**Chronic Phase (Post Crisis)**

- Correct wrong perception depend on reliable information
- Concrete and personalized question
  - Current safety of local foods (even tested foods)
  - Air dose rate of my garden is 0.25μSv/h,, „It is higher than decontamination level,, „
  - Current risk of airborne Cesium

**Crisis Phase**

- Prospective information under unclear vision
- A two-alternative question
  - Life-or-death
  - Evacuation or not

**Scientists should decide in unclear situation**

/To All

**Small Group/ Individuals**
Various Risk, Various Phase

In Fukushima

- Flood
- Radiation Disaster
- Snow
- Volcanic Eruption
- Global Warming
Summary and Future

Purpose of risk communication is
1. To support the citizen’s understanding of level of risk.
2. To support the citizen’s own decision.

Communication pattern has changed depend on phase
- Crisis → Post Crisis → Before Accident

Medical professionals are the best suited for the communicator of radiation anxieties.

Being an expert during a crisis is much more than “Delivery Information” / “Attentive Hearing and Sympathy”.

Each other’s criteria of acceptable risk should be respected.

**Total support** would be essential.

It requires high levels of **humanity and liberal arts**