Assessments by International Organizations

WHO Reports (2/2): Summary of Health Risk Assessment [Reference]

Assumptions for risk assessment

- Assuming that there is no threshold dose for radiation carcinogenesis, the linear model and the linear quadratic model were adopted for dose-response relationships for solid cancer and leukemia, respectively.
- Dose and dose-rate effectiveness factors (DDREF) were not applied.

Results

- People's exposure doses were below all thresholds of deterministic effects (tissue reactions).
- When using a method to avoid underestimation of risks, among people of either gender in a specific age group in the most affected area, the lifetime risk of developing some types of tumors is estimated to increase slightly. However, this merely shows a relative increase against the baseline (lifetime risk of naturally occurring tumors) and does not show an increase of the absolute risk of developing tumors.
- Risks of heritable effects due to radiation exposure are further smaller than the risks of generating cancer.
- The results suggest that increases in the incidence of diseases attributable to the additional radiation exposure are likely to remain below detectable levels.

Conclusion

- Values in this Report are for roughly ascertaining current risk levels and are not intended to predict future health effects.

The WHO's health risk assessment was conducted for the purpose of examining the scopes of people to be subject to health management and diseases whose incidence should be monitored. This assessment was based on exposure doses estimated under considerably conservative assumptions in order to avoid underestimation. Accordingly, resulting values in this Report are for roughly ascertaining current risk levels and are not intended to predict future health effects.

[Relevant parts in the reports]
• WHO Report on preliminary dose estimation (Tables 3 and 4 on pages 44 to 47)
• WHO Report on health risk assessment (pages 8 and 92 to 93, and Table 43 on page 156)

Included in this reference material on March 31, 2015
Updated on March 31, 2024