



KEYWORDS

ionizing radiation, effects, risk estimation.

INTRODUCTION

Releases of radionuclides produce events and their characteristics can be estimated based on the data products collected (characterization of the source and signals); but this is a proceeding that shows huge risks and is not always possible.

OBJECTIVE

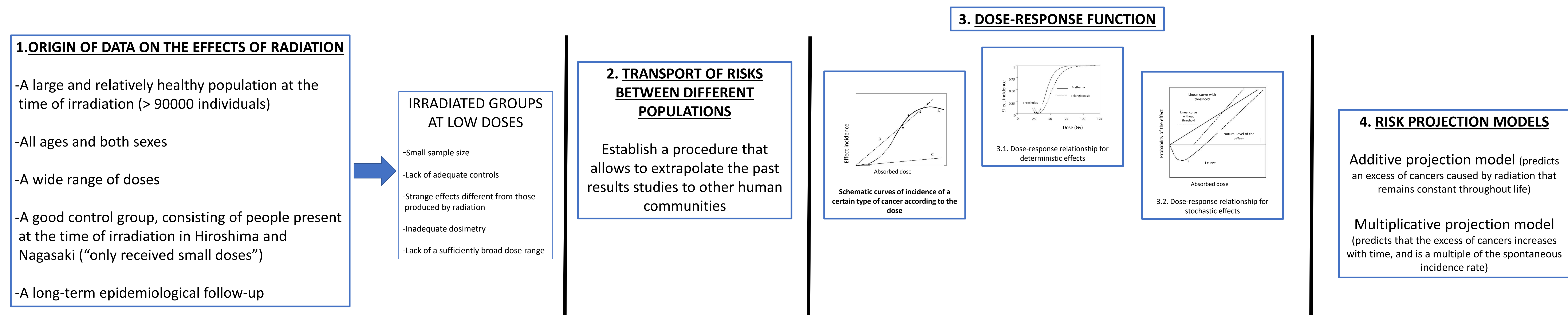
To ensure compliance with the Treaty, describe the scientific basis of risk estimation (RE).

METHODOLOGY

The most important source of data to RE of ionizing radiation is the group of atomic bomb survivors. Considering the characteristics of this group and the epidemiological data of low LET radiation (medical exposures of thyroid¹ and breast, patients undergoing radiotherapy in the UK to relieve pain associated with ankylosing spondylitis and data on secondary cancers in women treated for cervical cancer) deterministic² and predictive RE is performed.

RESULTS

Shown below in points 1, 2, 3 and 4.



CONCLUSION

Occasionally interpretation errors occur due to sample size, lack of controls, strange effects different from those produced by radiation, inadequate dosimetry and lack of a sufficiently large dose range. Since radiation risks may be diverse for another population, it’s necessary to establish a procedure that allows results extrapolation to other human populations.

REFERENCES

1. Efanov AA, Brenner AV, Bogdanova TI, Kelly LM, Liu P, Little MP, et al. Investigation of the relationship between radiation dose and gene mutations and fusions in post-Chernobyl thyroid cancer. J Natl Cancer Inst. 2017.
2. ICRP. RBE for deterministic effects. ICRP Publication 58. Ann. ICRP. 1990;20(4).