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CHALLENGES AND SOLUTIONS

Risk Communication to the General Public: Health Risks of Low-Dose Ionizing Radiation

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OBJECTIVES

- Study in São Paulo to identify the contribution of natural background radiation and its influence in annual average doses.
- Controversies on the biological effects of low level radiation distort and confuse public's perceptions of radiation risks and benefits.
- This paper discusses the different perspectives about risks of low-doses ionizing radiation and the dilemmas that risk communicators should take into account.

METHODOLOGY

Monitoring points from 2010 to 2015
•Vila Carrão, an urban large populated area, with sources for medical and industrial purposes.
•Aldeia da Serra, a low population density outskirt area, with no influence of artificial sources.

The results at these two different places of São Paulo city were compared with estimated world average of 0,9 mSv (terrestrial gamma rays and cosmic rays), as released by UNSCEAR 2000.

RESULTS AND DISCUSSIONS

- The high populated area obtained 30% more contribution of background radiation. The results included gamma rays (air, soil, building materials) and cosmic radiation.
- The average radiation dose from natural sources (external exposure) in both points is slightly greater than the annual average reported by the UNCEAR 2000 (0.3-1.0 mSv).
- Several factors can influence the distribution of exposures: such as specific concentration of radionuclides in the environment, latitude and altitude, among others.

CONCLUSIONS

- Regarding risk information about the radiation natural background and low-doses effects, it is not enough to measure and communicate results.
- Overload information in Internet causes misunderstandings among general public. The many controversial assumptions, can lead to misinterpretation, distrust and bad conclusions.
- Scientific community has the responsibility to communicate with the general public about benefits and risks. The adequacy of the communication is a must and a challenge.