

RELATION BETWEEN RESIDENTIAL RADON CONCENTRATIONS AND HOUSING CHARACTERISTICS. THE CRACOW STUDY

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SUMMARY

The survey on indoor radon exposure was undertaken to explain whether the excess in lung cancer deaths in Cracow city center may be attributed to this particular exposure. A total of 310 detectors was placed in households randomly chosen from three homogenous strata of residential buildings. The first stratum included house in the old city center constructed predominantly out of the stone bricks. The second stratum covered area of the city with big apartment condominiums built out of concrete blocks. The third stratum consisted of single family houses located in a suburban area. From each of these residency strata a random sample of equal number of households has been chosen and the radon detectors were placed in households located at different levels of buildings. The three-month radon sampling data were used to determine the distribution of various levels of radon in the households. In the measurement of radon exposure the Landauer α -track samplers were used. The data collected show that the best single predictor of indoor radon concentrations was type of building. Other variables found to be associated significantly with indoor concentrations were household level in the building and house age. In general, residences with a concrete slabs and dwellings with rarely-opened windows were found to have slightly higher radon concentrations.

Key words: radon, indoor exposure, household survey

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