

German Environmental Survey 2003–06 (GerES IV)

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Methods

GerES IV is a module of KiGGS undertaken by the Federal Environment Agency. Exposure to chemical pollutants, mould spores and noise was examined using a representative sample of 1,790 children aged between 3 and 14. This involved the analysis of blood, urine, house dust and drinking water samples, a screening audiometry and a questionnaire identifying factors relevant to exposure.

Results

Because the Federal Environment Agency had already included children in GerES II (1990–92) subsequent trends in exposure levels can be identified. Exposure to lead, mercury, PAH and PCP has decreased markedly as a result of environmental and health policies.

Exposure to second-hand smoke did not decrease, however. In both surveys around 50 % of children were living in households with at least one smoker. Urinary cotinine levels suggest exposure to second-hand smoke may even have increased. In almost half the households in which smoking occurred daily the future EU limit for benzene in outdoor air was exceeded in the indoor air.

GerES IV will continue to examine links between environmental conditions and health. Around 10 % of children have been shown to be sensitive to at least one of the mould spores analysed. Of the spores included in GerES, most are principally encountered in an indoor environment and are not covered by routine allergy screening tests. In the hearing test, around 13 % of children showed a loss of more than 20 dB, and 2.4 % more than 30 dB, in at least one of the frequencies measured. Noise from leisure activities is one potential cause of this hearing impairment.

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Keywords

Health and environmental survey, Children, GerES, Lead, Mercury, Cotinine, Benzene, PAH, PCP, Mould, Indoor environment, Hearing impairment