



Abstract

Effects on health of cadmium- WHO approaches and conclusions

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Effects of cadmium on the human health and on the environment have been assessed by the International Programme on Chemical Safety in the Environmental Health Criteria series (IPCS 1992a, b). The health effects of cadmium specifically from dietary sources have been repeatedly assessed in the FAO/WHO Joint Meeting of Experts on Food Additives and Contaminants (JECFA 1972, 1989, 1993, 2001, 2003). Furthermore, the carcinogenicity of cadmium, with an emphasis on inhalation exposure at work, has been assessed by the International Agency for Research on Cancer (IARC, 1993). The most recent evaluation has been performed in the JECFA series in June 2003 (7), and the conclusions of this meeting constitute the main content of this presentation, and pertinent parts of the abstract of the meeting are presented below.

At the sixteenth meeting of JECFA (1972), the Committee allocated a Provisional Tolerable Weekly Intake (PTWI) of 400–500 μg of cadmium per person. At the subsequent three meetings, the Committee retained this PTWI, but expressed it on a body weight basis (7 μg per kg of body weight). At the fifty-fifth meeting (JECFA 2001) the Committee concluded that the prevalence of renal tubular dysfunction that corresponds to various intakes of dietary cadmium could serve as a reasonable basis for risk assessment. Although new information suggested that a proportion of the general population may be at increased risk of tubular dysfunction at this PTWI, the Committee maintained this value because of lack of precision in the risk estimates.

In 2003, the Committee (JECFA 2003) reaffirmed its conclusion that an excess renal tubular dysfunction will not be expected if urinary cadmium levels remain below of 2.5 $\mu\text{g/g}$ of creatinine. The Committee concluded that under the most appropriate assumptions about dietary bioavailability, absorption and urinary excretion no excess renal tubular dysfunction would occur at the current PTWI and thus maintained the PTWI at 7 μg per kg of body weight.

References

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