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Urinary bisphenol A levels and increasing body mass: results of a cross-sectional study

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Exposure: [food \(http://ehp.niehs.nih.gov/isee/tag/food/\)](http://ehp.niehs.nih.gov/isee/tag/food/)

Background According to the WHO, over 700 million obese people there are in the world and about 2 billion people are overweight. BPA has been shown to have endocrine-disrupting effects like behavioral changes, altered growth, and early secondary sexual maturation. In particular, there is evidence that epigenetic changes associated with the use of manmade chemicals may interact with other factors that influence fetal and postnatal growth in contributing to the current obesity epidemic. Epidemiological data in humans are still lacking.

Aims A possible association between the urinary BPA levels and body mass index (BMI) of general adult population of the south Italy was investigate.

Methods Occupation, education, and lifestyle habits, such as tobacco smoking, alcohol consumption, and other common demographic data were collected by a specific questionnaire. Overweight was defined as BMI from 25 to less than 29.9 kg/m² and obesity was defined as BMI ≥30 kg/m². Pooled 24 h urine samples were collected in polyethylene containers and stored at -20°C until the analysis. BPA was determined by HPLC/MS. Results Participants were adults (61% females) non occupational exposed to BPA with the mean age of 50±13.6 years. 5.6% of the subjects were underweight, 33.3% were normal weight, 55.6% were overweight and 5.6% were obese. Average levels of urinary BPA show a trend from underweight to overweight subjects. The same trend is highlighted both for males and females group. A trend is not highlighted for obese group probably because of the small sample size.

Conclusions

Our results confirm the link between BPA exposure and the increased body mass as well as a widespread BPA exposure which might be an important risk factor for body weight increase. Therefore, is recommended the counseling of patients by health professionals to decrease levels of exposure to endocrine disruptors particularly during important periods of development such as pregnancy, infancy and puberty.

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