

Phthalate Exposure among Roma Population in Slovakia

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Abstract : Phthalates are ubiquitous environmental pollutants well-known because of their endocrine disrupting activity in human organism. The aim of our study was, by biological monitoring, investigate exposure to phthalates of Roma ethnicity group i.e. children and adults from 5 families (n=29, average age 11.8 ± 7.6 years) living in western Slovakia. Additionally, we analysed some associations between anthropometric measures, questionnaire data i.e. socio-economic status, eating and drinking habits, practise of personal care products and household conditions in comparison with concentrations of phthalate metabolites. We used for analysis of urine samples high performance liquid chromatography and tandem mass spectrometry (HPLC-MS/MS) to determine concentrations of phthalate metabolites monoethyl phthalate (MEP), mono-n-butyl phthalate (MnBP), mono-iso-butyl phthalate (MiBP), mono(2-ethyl-5-hydroxyhexyl) phthalate (5OH-MEHP), mono(2-ethyl-5-oxohexyl) phthalate (5oxo-MEHP) and mono(2-ethylhexyl) phthalate (MEHP). Our results indicate that ethnicity, lower socioeconomic status and different housing conditions in Roma population can affect urinary concentration of phthalate metabolites.

Keywords : biomonitoring, ethnicity, human exposure, phthalate metabolites

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