

**[P-49]****DIETARY RISK ASSESSMENT FOR POLYCYCLIC AROMATIC  
HYDROCARBONS IN FOOD**

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Polycyclic aromatic hydrocarbons(PAHs) vary in their carcinogenic potencies. The more potent PAHs carcinogens are 3-methylcholanthren and 7,12- dimethyl benzo(a)anthracene, while dibenzo(a,c)anthracene has very little carcinogenic activity. Risk assessment of chemical mixture containing various congeners which toxic potency are each different, are conducted using toxic equivalency factors(TEFs). For example, the estimate toxicity of PAHs is a product of the concentration of each congeners times its TEF value. This risk assessment based on TEFs is best used for chemicals that act by a common mechanism of toxicity because the toxicity of the PAHs is assumed to be additive. PAHs can be exposed to human through mutimedia such as air, water,soil and food. This study was performed to identify cumulative dietary risk due to PAHs that can be exposed through food ingestion. The quantitative risk estimate was conducted using cancer potency which is the result of application of a low-dose extrapolation procedure and is presented as the risk per mg/kg/day. Food samples including ham and vegetable oil et al. to be analyzed for PAHs content using HPLC method were collected from food markets. Generally PAHs concentrations were low, but grilled chicken showed significantly higher concentration than others. Exposures should be calculated separately for age groups with similar contact rate to body weight ratios. For the exposure assessment of PAHs by foods ingestion, the average body weight for each age group separating as 1-6yrs, 7-19yrs and 20-73yrs and consumed values from report on national heal the and nutrition survey was used. The estimated lifetime daily intake of PAHs was  $4.245 \times 10^{-4}$ ug/kg/day as mean value. The dietary risk estimated using cancer potency of benzo(a)pyrene as  $7.3(\text{mg/kg/day})^{-1}$  was  $3.099 \times 10^{-6}$ .

keyword : Diertary risk assessment, PAHs