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## IS30. TOXICOLOGY INTEGRATED APPROACH TO IDENTIFY CAUSES OF DEATHS AND CHRONIC DISEASES LINKED TO XENOBIOTICS: EVALUATING HAZARDS AND PERSONALIZED RISKS

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The complex issue of links between chemical exposures and health problems and diseases associated with multiple factors that are due to the expanding numbers of the chemical categories being present simultaneously or sequentially, the variety of mechanisms, mode of actions, adverse outcome pathways and effects involved but also on a large number of co-founders and also not less important to be encountered susceptibility due to genetics and epigenetics. Several epidemiological studies but also in vivo and in vitro experimental works showed that big majority of man produced consumer products even for dietary or life style purposes were found to act as endocrine disruptors, neurodevelopmental toxicants, immunotoxicants and carcinogens in animals and humans. Taking into consideration most recent aspects for risk assessment of individuals where exposure assessment is personalized through questionnaires, biomarkers monitoring, hazard assessment by hazard identification and hazard characterization for the substances the person is exposed, mixture interactions and concepts, susceptibility based on family records and genetic profile, omics, in vitro based on individual' cells and diversity between in vivo and vitro data, also what is called early life exposure and epigenetics and the issue of endocrine disruption in conjunction with low dose effects and nonmonotonic responses we can realize the grounds and causation of the incomprehensible and hazy picture we face in our toxicology evaluations and the timely disagreement in facts among governmental and other international and authorial regulatory organizations throughout the world. It is a fact that as we expand the sphere of our knowledge in general we simultaneously expand the borders of our knowledge with ignorance. Being highly respectable to Socrates I suggest that the above sentence takes a step forward and clarifies for the public the deep meaning of the Socrates statement "I know nothing except the fact of my ignorance". Evaluating effects due to biologically active compounds (xenobiotics, toxicants) is considered a multifactorial task that needs an integrated and systematic approach not only for long term actions but often for acute or sub chronic actions. Since such evaluations are highly work load and time consuming a sophisticated approach to identify the dominant actions and effects are in need. Such evaluation approaches will be presented for cases of different types of exposure related effects in forensic cases and chronic diseases.

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