Market Analysis: Global summit on Industrial and Clinical Toxicology

Belinda Cridge

Toxicology is the study of the toxic impacts of chemicals or physical operators on organisms. The evaluation process of the pharmaceutical products which ensures the safety of the products and drugs related to animals and man with respect to normal physiological function and reproductive performance. Regulatory authorities, around the world, require data on the toxic potential of New Chemical Entities (NCEs) as part of their evaluation process. Toxicity assays and assessment have become an integral component of the regulatory; Research and Development requirements. Different branches of toxicology come into play such as Clinical, Biomedical, Public Health, Regulatory, Environmental toxicology and Computational toxicology. The mechanism of action, adverse effects of exposure, understanding the responses through testing procedures, Clinical and Preclinical trials, recognition, identification, and development and uses are some of the possible applications of toxicology.

Market Analysis

The Global market for In-vitro Toxicology testing market has been estimated to be USD nearly 11 billion in 2014 and it is projected to reach above USD 18.5 billion by the end of 2020 at a CAGR of 9.7-9.8% during the forecast period from 2014-2020. Inclusion of in-vitro toxicology has started a new era in biopharmaceutical research. It is considered one of the most significant steps in drug discovery and formulation. The in-vitro toxicology will improve the process of quality of drugs entering clinical studies and also improves the safety margin and efficiency of new compounds and allows compounds to be arranged properly in the development process. Earlier and more accurate identification of potential mechanisms that cause drug interaction and reactions have significant potential for improving consequences in drug management and discovery.

Industries require toxicity testing and assessment of their products strength and concentrations as mentioned in their particular Pharmacopoeias. On the basis of end-users, the market is divided further into pharmaceuticals, cosmetics, Food and household products, chemicals industry, and beverages industry. Where the largest share is held over by Pharmaceuticals and drug industry and increased adoption of in vitro methods in the detection of adverse effects to curb drug formulation costs and initiatives by agencies and programs that are initiated by the various Unions. In the upcoming decades Cosmetics industry is expected to be the fastest growing because of government and the support of Cosmetics Directive.

Belinda Cridge
Program Director, Department of Pharmacology and Toxicology, Otago University, New Zealand, E-mail: belinda.cridge@otago.ac.nz