



Introduction to Journal of Medical Toxicology Research

Karen Gregory Mulkijanyan*

Introduction

I am pleased and honored to announce the launch of the Journal of Medical Toxicology Research, a peer-reviewed, international, fully open access journal.

According to Scimago Journal & Country Rank currently there are about 120 journals that publish articles somehow or other related to toxicology. So the first questions that one will inevitably ask after reading these lines: one more? What for?

Let us try to answer these questions.

The existence of modern society is based on large-scale production, which determines the level of technology and quality of life in developed countries. We live in conditions of the continuous introduction and wide use of new industrial chemicals and products as drugs, food additives, cosmetics, pesticides, etc. In all spheres of human activity: light and heavy industry, agriculture, medicine, ecology, transportation, etc. To date, several millions of chemicals are synthesized and their number is increasing by tens (if not hundreds) of thousands a year. But everything has its price - unfortunately such progress leads to an elevating frequency of poisoning (domestic, industrial, suicidal and criminal). In this regard, in recent years, the so-called toxic situation has developed in most countries of the world.

Toxicology and pharmacology can be considered as interdisciplinary biomedical sciences, drawing upon the foundations and approaches of cell biology, systems physiology, biochemistry, molecular biology and genetics. Integrative, multi-disciplinary, and state-of-the-art experimental approaches are used in each of these research areas. The highly specialized pharmacological and toxicological setup is established to cater to the growing needs of researchers involved in preclinical, pharmacological, toxicological and ayurvedic/herbomineral formulation analysis. *In vitro*, *in silico* and *in vivo* screening of drugs, chemicals, nutraceuticals, lead molecules, formulations, phytopharmaceuticals, herbs and minerals against

specific target proteins, disease or disorders (pertaining to ANS, CNS, CVS, GIT, metabolic disorders, etc.) is performed for evaluating the efficacy, potency and safety of the test substances. Investigations range from the molecular level to the whole living organism and risk assessment decisions should be made on each level (from early stages of the research to Phase III of clinical trials) to protect human health. At the same time toxicology is a dynamic area of utilizing laboratory animals, and thus the compliance with the 3R principle should be considered and an optimal number of animals should be justified during the design of either pharmacological or toxicological experiment, encouraging the scientists to use SAR databases and methods. This, in turn, requires a more balanced and responsible approach when extrapolating data to humans.

On the other side, in contemporary scientific research, the amount of information, knowledge and research results increase dramatically. This rapid increase in the number of results leads to the need for an effective and efficient report and dissemination of newly obtained data, for which others must rely. Therefore, there is a great demand in up-to-date, brief, sharply focused manuscripts that report on all possible aspects of research.

I hope that this journal will be oriented to provide the necessary tool for the exchange of state-of-the-art experience and novel experimental approaches in the field of toxicology, primarily for scientists from developing countries who will benefit from assessing common problems, sharing ideas, and determining the contexts in which they can be successfully adopted.

I believe that the Journal of Medical Toxicology Research will become a multi-disciplinary open access platform for publishing the most interesting studies for authors in various fields, including, but not limited to Clinical and Forensic Toxicology, Developmental and Reproductive Toxicology, Computational and Predictive Toxicology, Environmental and Occupational Toxicology, Models for the Toxicity Studies and thus the journal will contribute to a better understanding of the problems faced by the medical society, and help the scientists to find right ways to overcome these challenges.

We welcome scientists to publish their research articles, review articles, case reports, image articles, case blogs and short communications as we strongly believe that your contribution to the Journal of Medical Toxicology Research will be highly valued, and will heighten the impact of this journal.

*Corresponding author: Karen Gregory Mulkijanyan, Department of Preclinical Pharmacological Research, Tbilisi State Medical University Institute of Pharmacochimistry, Republic of Georgia, Tel: +995 555 235 829; Fax: +995 322 520 023; E-mail: karmulk@gmail.com

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Author Affiliations

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Department of Preclinical Pharmacological Research, Tbilisi State Medical University Institute of Pharmacochimistry, Republic of Georgia