



EDITORIAL NOTE

Chemistry and Health: Past, Present and Future

JOSÉ A.S. CAVALEIRO

Department of Chemistry and Organic Chemistry, Natural Products and Foodstuffs Unit (QOPNA),
University of Aveiro, 3810-193 Aveiro, Portugal, Member of the Brazilian Academy of Sciences

The Brazilian Academy of Sciences had its 100 years celebration in 2016. In connection with such scientific event it was decided to publish special numbers of its journal, *The Annals of the Brazilian Academy of Sciences* (AABC; An. Acad. Bras. Cienc.). This journal is being a light since 1929 in our globalized world, but mainly in Latin America.

The present special issue was planned inside the topic “Chemistry and Health: Past, Present and Future”. Such topic is obviously pointing to the scientists’ action in the health area, by developing and setting up new drugs. That is a fantastic target involving scientists from several areas but working altogether, mainly chemists, physicists, biologists, pharmaceutical and medicinal scientists. How life on Earth would be if the already established drugs were not be available? Luckily, it can also be anticipated that other new and better ones might be in the “pipeline” to become available.

In fact, all over the times, but mainly during the last two centuries and up to now, chemists and other related scientists always had/have in mind the development of the chemical science in a straight connection with life. Understanding natural processes, with emphasis on those involved in vital functions, has been a work target for many years. The search for better conditions of living has been always linked with the idea of looking for the development of new agents capable to improve the mankind life condition.

The 20th century has been a period of highly significant discoveries in the drug field (Dias et al. 2012), with the period between 1975 and 2000 being considered as the golden area for that (Maryanoff 2009). Amazingly a publication (Carr 1929) appeared in the Journal of Chemical Education in the section High-School Essays. In such publication, scientists who had a key position in the history of chemistry and medicine were called “Architects of Health”.

Natural compounds and chemical synthesis, sometimes by derivatization of natural substrates, brought a big avenue to the human welfare (Newman and Cragg 2016). It should however be stressed the impressive contribution given by scientists from high-teaching institutions for the development of such research area. In the particular case of Brazil, there has been a great development in drugs’ search against several diseases; the synthesis of cholesterol-lowering agents (atorvastatin), of anticancer (sunitinib) and anti-anxiety (fluoxetine) drugs can be mentioned just as examples of such significant action (Barreiro and Pinto 2013).

The humans' life conditions have been improved due to the availability of drugs against many diseases, which were developed by the scientific community. However the current situation is not an ideal one; studies looking for new and more efficient bioactive compounds are being work- targets for research groups all over the world.

This AABC's special number has contributions of research groups from several countries. It reports scientific results on the synthesis, structural characterization and biological evaluation of several types of organic compounds as potential future drugs.

REFERENCES

- BARREIRO EJ AND PINTO AC. 2013. Opportunities and challenges for innovation in pharmaceuticals: now or never! *Rev Virtual Quim* 5: 1059-1074.
- CARR CJ. 1929. The importance of chemistry in health and disease. *J Chem Ed* 6: 1425-1430.
- DIAS DA, URBAN S AND ROESSNER U. 2012. A historical overview of natural products in drug discovery. *Metabolites* 2: 303-336.
- MARYANOFF BE. 2009. Drug discovery and the medicinal chemist. *Future Med Chem* 1: 11-15.
- NEWMAN DJ AND CRAGG GM. 2016. Natural products as sources of new drugs from 1981 to 2014. *J Nat Prod* 79: 629-661.