

Pharmaceuticals Market, Consumption Trends and Disease Incidence Are Not Driving the Pharmaceutical Research on Water and Wastewater

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Abstract

Pharmaceuticals enhance our quality of life; consequently, their consumption is growing as a result of the need to treat ageing-related and chronic diseases and changes in the clinical practice. The market revenues also show an historic growth worldwide motivated by the increase on the drug demand. However, this positivism on the market is fogged because the discharge of pharmaceuticals and their metabolites into the environment, including water, also increases due to their inappropriate management, treatment and disposal; now, worldwide, this fact is recognized as an environmental concern and human health risk. Intriguingly, researchers have studied the most effective methods for pharmaceutical removal in wastewater; however, the types of pharmaceuticals investigated in most of these studies do not reflect the most produced and consumed pharmaceuticals on the market. Hence, an attempt was done to analyze the pharmaceutical market, drugs consumption trends and the pharmaceutical research interests worldwide. There are other drivers and interests that promote the pharmaceutical research. Thus, this review is an important contribution to those that are interested not only on the pharmaceutical market and drugs consumption, but also on the links, the drivers and interests that motivate and determine the research work on certain groups of pharmaceuticals on water and wastewater.



Biography

Omar I. Gonzalez Peña performs consulting for various companies in R&D, as well as environmental impact. He is a member of the National System of Researchers at CONACYT, Mexico. His research lines are in the following engineering fields: Electrochemistry, Environment, Biomedical, Chemistry and Materials Science. Therefore, the research application falls into the studies on sustainability, development of sensors of clinical and environmental interest, energy recombination devices and development of electrochemical technology. He also works in STEM educational research, holds a Ph.D. from Case Western Reserve University, and nowadays, he is a professor at Tecnológico del Monterrey.

Publications

- 1.Enhancing Student Engagement with a Small-Scale Car That Is Motion-Controlled through Chemical Kinetics and Basic Electronics
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