Pharmacoenvironmentology vs. Ecopharmacology

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Abstract

There is no specific term for 'Impact of Drugs at therapeutic doses on Environment' and no clarity in the term 'Ecopharmacology'. Various studies suggest that drugs given to humans and animals are being measured in surface water, groundwater and drinking water. 10 -15 % of drugs are excreted in the form of metabolites. It means that, once they are excreted into the environment, they enter food chains and concentrate as they move upward into larger predators. Few drugs also tend to persist in the environment after their excretion. No clear cut description is yet given on concept of drug monitoring at therapeutic doses on environment. Ecopharmacology and Environmental-pharmacology perplex the situation because of their interchangeable use. Pharmaceuticals enter into the environment through various routes. If these drugs enter into the environment through living organisms via elimination must be a specific domain of pharmacology and not of ecosystem. In our view, Pharmacovigilance is related to an impact of human drugs on human body at therapeutic doses, Pharmacoenvironmentology is the study of drugs at therapeutic doses on environment eliminating from living organism whereas Ecopharmacology as a major term should be restricted to studies of "Pharmaceuticals and Personal Care Products" irrespective of doses and route of entry into environment. Pharmacoenvironmentology may be a component of Pharmacovigilance if extended to environment. In addition, there is no clear role of pharmacologists in Ecopharmacology. Accordingly there is a dire need of experts / pharmacoenvironmentologist who can monitor adverse effects of drugs on environment at therapeutic doses. We need studies regarding drugs and their exact concentration in the aquatic environment and other issues concerning antibiotic resistance to pathogens found in environment due its slow entry through body elimination.