

Chronic exposure to pesticides (agrottoxics) by endemic workers in the state and municipality of Rio de Janeiro, Brazil.

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Abstract

Introduction The use of pesticides (agrottoxics), including some that were restrict or banned worldwide, is a key element of the Brazilian vector control strategy, making them potential exposure sources. This exposure is more intense for professionals directly involved with the manipulation and application of these substances, like the Endemic Workers (EW), who suffered for decades a process of continuous exposure to agrottoxics associated with several health problems, including neurotoxic damage and cancer.

Objectives Identify and characterize the harmfulness of agrottoxics used by endemic workers.

Methods Through a documentary research using official documents from the health departments of the state and municipality of Rio de Janeiro and a literature review, the agrottoxics used by the EW in the region between the years 2000 and 2019 and its implications to human health, were identify and analysed, aiming to contribute to the elaboration of the exposure profile of these workers.

Results The study identified a total of 11 active ingredients of pesticides in the products used in the state and municipality of Rio de Janeiro. Among the effects on humans associated with exposure to these substances, the neurotoxic effect of 7 of them (alpha-cypermethrin, bendiocarb, deltamethrin, phenitrothione, malathion, permethrin and temephos) and the carcinogenic potential of alpha-cypermethrin, malathion and permethrin stands out. During the pandemic, new agrottoxics have been introduced in vector control actions, containing clothianidin, deltamethrin, pralethrin, imidacloprid and *Saccharopolyspora spinosa*, agrottoxics that already have been associated with several health effects, so is likely that the EW will continue to be chronic exposed to harmful substances in their labour activities.

Conclusion The implications of the exposure to agrottoxics reinforce the need to reformulate the national vector control policy that employs them in a massive volume, exposing the EW category, as well as the general population and the environment to these harmful effects.