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Pesticide poisoning: A response to Eddleston

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We thank Michael Eddleston¹ for his comment on our Editorial in the special issue on Pesticide Poisoning in Low- and Middle-Income Countries² and note the consistent and substantial contribution made by his group on this topic, particularly related to pesticide poisonings and self-harm.^{3–7}

We agree that serious pesticide poisonings are most often due to acts of self-harm, although they are outnumbered by less-severe poisonings in occupational settings and accidental poisonings.^{8–12} Eddleston's argument that suicide should be recognized as an occupational disease is consistent with the idea that categories of work-relatedness of illness should take account of easy access to a work-related hazard.¹³ Prevention of all forms of pesticide poisoning deserves priority attention.

Reducing access to pesticides can lower the number of poisonings, be they due to self-harm, accidents, or occupation. Evidence, first identified in Sri Lanka,⁵ and confirmed in a global systematic review,⁶ suggests that banning highly hazardous pesticides, which are commonly ingested in acts of self-poisoning, can lower the number of fatal self-harm cases. Similarly, farming with reduced use of pesticides (integrated pesticide management [IPM]), can lower the number symptoms of occupational pesticide poisonings.^{6–8}

We note Eddleston's comments confirming the attention paid to providing information to households on safe storage in their trial of ground-installed containers.⁵ Despite this attention, their rigorous study was not effective in reducing suicide, illustrating the limits of interventions requiring individual behaviour change and reinforcing arguments for upstream legislative intervention to ban highly hazardous pesticides. However, not all behaviour change interventions are the same – those that empower workers and farmers to make informed choices may have substantial beneficial impacts.^{14–16}

Preventive measures should then combine multiple approaches for which there is evidence of effectiveness, and we need a hybrid approach advocating for removing highly hazardous pesticides from poor rural communities as suggested by Eddleston et al, as well as educating farmers on IPM and safer storage of pesticide. It may not be realistic to assume that all highly hazardous

pesticides would be removed immediately after adopting policies and the effects of legislation to remove the most hazardous pesticides could be reinforced by IPM promotion.

Such efforts are urgently needed in low- and middle-income countries where pesticide use is increasing rapidly without any concomitant increase in user or consumer knowledge, and without measures to improve agency on the part of those most vulnerable to prevent the harmful effects of pesticide exposure.

Author Contributions

EJ and LL drafted the article. LL, EJ and DN revised the article for important intellectual content. All authors approved the article.

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