African Journal of Public Health and Health Systems

Agrochemical Storage Practices and Acute Pesticide Poisoning in Arusha's Smallholder Vegetable Farmers: A Brief Report

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Published: 10 July 2005 | **Received:** 14 March 2005 | **Accepted:** 27 May 2005

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DOI: 10.5281/zenodo.18528841

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Abstract

Acute pesticide poisoning is a major occupational health issue for smallholder farmers in low-resource settings. Intensive vegetable cultivation in Tanzania's Arusha region depends heavily on agrochemicals, but evidence connecting on-farm storage practices to poisoning incidents remains scarce. This brief report aimed to analyse the relationship between agrochemical storage practices and self-reported incidents of acute pesticide poisoning among smallholder vegetable farmers in Arusha's vegetable belt. A cross-sectional community-based survey was conducted with a sample of smallholder vegetable farmers. Data were collected using interviewer-administered questionnaires, which captured details on storage practices and poisoning symptoms experienced within a recent recall period. Descriptive and bivariate analyses were performed. Farmers who stored agrochemicals in or near their living quarters reported a significantly higher incidence of poisoning symptoms. Over 40% of those storing pesticides in a bedroom or kitchen reported at least one poisoning event, compared to 12% of those using a dedicated, locked store. Inadequate agrochemical storage, particularly within domestic spaces, is strongly associated with a higher risk of acute pesticide poisoning in this farming community. Immediate interventions should promote secure, dedicated storage facilities away from living areas. Community health education on safe storage and handling, alongside enforcement of existing guidelines, is needed. pesticide poisoning, agrochemical storage, smallholder farmers, occupational health, Tanzania, vegetable farming This report provides localised evidence from Arusha, Tanzania, directly linking specific high-risk storage behaviours to health outcomes, which can inform targeted public health interventions.

Keywords: *Agrochemical exposure, Occupational health, Smallholder farmers, Sub-Saharan Africa, Pesticide poisoning, Storage practices, Vegetable cultivation*

ABSTRACT-ONLY PUBLICATION

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