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PERCEPTIONS OF WIVES OF FARMERS ON THE USE, STORAGE AND DISPOSAL OF AGROCHEMICALS IN RURAL SOUTH INDIA

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Objectives: To assess the perceptions and awareness of wives of agricultural workers in rural Vellore on the use, storage, disposal and the health ill-effects of agrochemicals to identify knowledge gaps to further strengthen the directive towards safe and judicious agrochemical use in India.
Methods: A cross -sectional survey adopting a systematic random sampling methodology was conducted among 512 households of the Kaniyambadi block in southern India. A questionnaire containing questions on the common pesticides and fertilisers used, places of procurement, storage, mixing and disposal, use of Personal Protective Equipment (PPE), exposure to the agrochemicals, perceived health ill effects and safety practices and the source of knowledge for this information was developed, piloted and used.
Results: Nearly 95% of the 512 wives of agricultural workers interviewed had either partial or a major involvement in agricultural work. Inorganic fertilisers (85%) were predominantly used and Dimethoate (Organophosphate), Monocotrophos (Organophosphate), Cypermethrin (Pyrethroid) and Mancozeb (Carbamate) were the common classes of pesticides used. Fertilisers (57%) and pesticides (55%) were bought from private retailers. Pesticides were reported to be stored at home by 30.6% of the respondents. Pesticides were most commonly mixed without any PPE for the sprayer (44%). Fertiliser sacks were mostly reused (70%) to store grain or sold (103/512), while pesticide cans were mostly sold (69%) or discarded (22%). When questions specific to awareness were asked, 33% (171/512) thought that agrochemicals were not harmful, while 4% were unsure. Almost 75% did not know that agrochemicals could pass through the skin and 43% did not know the effects of agrochemical poisoning. An analysis of differences in awareness using logistic regression revealed that higher education provided a better awareness about protection when handling agrochemicals (OR: 1.77(1.18-2.66), $p<0.05$).
Conclusions: Although a majority of the wives were involved in agricultural work, knowledge on the safe storage, handling, disposal and the health implications of agrochemical use was found to be inadequate in the study. Further, the lack of use of PPE's by the pesticide sprayers is a matter of concern. The reuse of fertiliser sacks and the large- scale sale of empty pesticide cans to private hawkers must be discouraged. Higher education tended to improve awareness on the safe use of agrochemicals, and Information, Education and Communication (IEC) activities play a vital role in improving awareness and averting the subsequent health consequences of such risky practices in rural India where agriculture is the prime source of income.