PESTICIDE USE, HANDLING AND AWARENESS AMONG RURAL FARMERS IN SRI LANKA: IMPLICATIONS ON EMERGING CHRONIC KIDNEY DISEASE OF UNCERTAIN ETIOLOGY (CKDU)

WAKG Thakshila[1], EMDV Ekanayake[2], KSM Abdul[3], MAGD Samanmali[4], SS Jayasinghe[5], CS Jayasumana[6], EPS Chandana[7], SH Siribaddana[8] and PMCS De Silva[9]

[1, 2, 3, 4, 7, &9] Department of Zoology, Faculty of Science, University of Ruhuna, Matara, Sri Lanka
[5]Department of Pharmacology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka
[6]Department of Pharmacology, Faculty of Medical & Allied Sciences, Rajarata University, Saliyapura, Sri Lanka
[8]Department of Medicine, Faculty of Medical & Allied Sciences, Rajarata University, Saliyapura, Sri Lanka
[1]*thakshilawanniarachchi@gmail.com*

Agrochemical exposure has been considered as the main risk factor of Chronic Interstitial Nephritis in Agricultural Communities (CINAC) in Sri Lanka. Poor awareness and agrochemical handling practices could lead to occupational exposure, and hence an observational study was conducted focusing on lifestyle, farming practices, agrochemical handling and awareness of health effects among farmers (n=3669) in CINAC emerging locations. Smoking (50%), alcohol consumption (50.8%) and chewing betel (45%) were very common among male farmers. A history of drinking water consumption from surface wells near agricultural activities was evident among farmers. More than 60% of the farmers were actively using herbicide formulations such as Glyphosates,Glufosinate, Paraquat,Diuron, Phenoxy and Sulfonylurea. Chlorpyrifos formulations were the most commonly used insecticides. Urea and Triple Super Phosphate fertilizers were mainly used throughout the cropping cycle. Agrochemical mixing using different pesticide formulations and fertilizers was common among farmers (56%) expecting higher yields. Manual application was preferred to mechanical resulting further imminent exposure. The majority of the farmers (> 68%) were over using agrochemicals by not adhering to the recommended doses. The use of protective cloths and equipment during mixing and applying was ignored; nevertheless 63% of the farmers were well aware of the potential health effects of agrochemicals and their practices. Farmers opted to store the agrochemicals outside their home; however, they dumped used containers within the farming locations. Our study confirms potential occupational exposure to agrochemicals and thus regulation and proper management of agrochemicals is essential for the wellbeing of the farmers.

Keywords: Pesticides, Kidney disease, Farmers, Exposure, Sri Lanka