IMPACTS OF PESTICIDE USE ON SEMEN CHARACTERISTICS AMONG RICE FAMERS IN KIENXUONG DISTRICT, THAIBINH PROVINCE, VIETNAM

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Abstract. This case-control study assessed the effects of pesticide use on semen characteristics among rice farmers of Kienxuong District, Thaibinh Province, Vietnam. Semen samples of 1,036 rice farmers were obtained by manual masturbation and screened at Commune Health Stations. Of these, 156 abnormal semen samples were identified; 314 rice farmers with normal semen were recruited as controls. The semen characteristics (volume, sperm concentration, total sperm count, motility, vitality and morphology) of the cases were considerably poorer than the controls. Factors associated with abnormal semen after adjusting for age, smoking and alcohol drinking by logistic regression were: distance of less than 300 meters from house-hold to rice fields and duration of work over 10 years as a farmer (adjusted OR = 3.16, 95% CI: 1.97-5.05 and adjusted OR = 3.98, 95% CI: 2.20-7.21, respectively). Rice farmers without personal protective equipment (PPE) when spraying pesticides and without pesticide training (adjusted OR = 3.05, CI: 1.92-4.85 and adjusted OR = 1.90, CI: 1.14-3.16, respectively) were also at risk for abnormal semen compared to controls. These findings showed the strength of association between pesticide use and abnormal semen characteristics among rice farmers in Kienxuong District, Thaibinh Province, Vietnam.

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