Faal paru dan kadar kolinesterase serumpadapetani sawit di kabupaten Kuantan singingi propinsi Riau = The lung function characteristics and serum cholinesterase levels of palm oil farmers in kuantan singingi regency, Riau, Indonesia

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Abstrak

Latar Belakang: Petani sawit seringkali terpajan dengan berbagai macam polusi berupa debu dari pupuk dan pajanan pestisida.Pestisida yang paling sering digunakan adalah organofosfat (OP) dan insektisida karbamat (34%). Tingkat kejadian penyakit pernapasan yang berhubungan dengan pestisida di tempat kerja sebesar 1,17 per 100.000 penuh waktu pekerja setara (FTEs).
Tujuan: Menilai faalparu dan kadar kolinesterse serum padapetani sawit di Kuantan Singingi, Propinsi Riau.
Metode: Penelitian cross sectional pada petani sawit di Kuantan Singingi, Propinsi Riau bulan Agustus 2018. Sampel diambil dengan teknik cluster sampling. Variabel yang dinilai adalah karakteristik sosiodemografik, klinis, spirometri dan serum kolinesterase. Analisis data menggunakan program SPSS 20.0 dengan hasil dinyatakan berbeda bermakna bila p<0,05.
Hasil: Didapatkan 116 subjek penelitian dengan rerata usia 34,5±8 tahun, berjenis kelamin perempuan (87,1%), tingkat pendidikan terakhir SD (59,5%), tidak merokok (89,7%), dan masa kerja >2 tahun (84,5%). Indeks Massa Tubuh median 24,5 Kg/m² (16,85 – 44,44 Kg/m²) dan rerata kolinesterase serum 8,1±1,5 kU/L. Hasil spirometri menunjukkan kelainan restrikif pada 21,6% dan obstruktif pada 0,9% subjek penelitian. Hasil analisis menunjukkan terdapat hubungan antara lama pajanan (p=0,035) dengan kelainan faal paru. Analisis korelatif antara lama masa kerja dengan KVP (r_s=-0,205; p=0,027), VEP₁ (r_s=-0,235; p=0,011) dan VEP₁/KVP (r_s=-0,234; p=0,011).
Kesimpulan: Rerata kolinesterase serum petani sawit di Kabupaten Singingi, Propinsi Riau sebesar 8,1±1,5 kU/L dan terdapat hubungan antara lama pajanan pestisida dengan kelainan faal paru.
<hr />Background: Palm oil farmers are in risk to be exposed to various kinds of pollution, pesticide and fertilizer. Organophosphate (OP) and carbamate 34% insecticidesare the common pesticides used in palm oil farms. The incidence rate of pesticide-related respiratory diseases at work is 1.17 per 100.000 full-time equivalent workers (FTEs).This studyaims to characterize lung function and serum cholinesterase levels of palm oil farmers in Kuantan Singingi Regency, Riau, Indonesia.
Methods: This cross-sectional study involved oil palm farmers in the study location on August 2018 by cluster sampling design. Sociodemographic, clinical, spirometry and serum cholinesterase level characteristics were observed and statistically analyzed.
Results: The study involved 116 subjects with mean age of 34.5±8 y.owhich predominated by females (87.1%), elementary school degrees (59.5%), non-smokers (89.7%) and workers with working period >2 years (84.5%). Mean body mass index was 24.5kg/m² (16.85–44.44 Kg/m²) and mean serum cholinesterase was 8.1±1.5kU/L. Spirometric examination showed restrictive (21.6%) and obstructive (0.9%) lung function. There was a significant correlation between length

of working period and FVC (r=-0.205; p=0.027), VEP₁ (r=-0.235; p=0.011) and VEP₁/FVC (r=-0.234; p=0.011). There was no significant difference of serum cholinesterase level between abnormal lung function groups (p> 0.05).
Conclusions: The mean serum cholinesterase of palm oil farmers was 8.1±1.5kU/L. The study showed there wascorrelation between the duration of exposure to pesticides and lung function abnormalities.</i>