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Predictors of reducing low-density lipoprotein cholesterol (LDL-C) among Thai HIV-infected adults receiving antiretroviral regimen for at least 3 months

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Background: HIV-infected patients receiving antiretroviral therapy experience metabolic syndrome, including hyperlipidemia, particularly in low-density lipoprotein cholesterol (LDL-C), which is one of those significant predictors of cardiovascular disease (CVD). Reducing LDL-C has been reported to be associated with a reduced rate of cardiovascular outcomes. The objective of this study was to identify predictors of reducing LDL-C in HIV-infected patients with abnormal LDL-C who were on stable antiretroviral therapy for at least 3 months.

Methods: We conducted a randomized, 24-week study in HIV-infected patients with dyslipidemia who were on antiretroviral therapy. Participants were randomly assigned into two groups. The intervention group received individual counseling with a nutritionist for 7 sessions, whereas the control group received general diet information at baseline and subsequent annual visits as standard care. All HIV positive patients with an abnormal LDL-C were followed up for 24 weeks. Predictors (measured at baseline) associated with a reduction of LDL-C of at least 10 mg/dL in HIV-infected patients were identified.

Results: Seventy-two patients were randomly assigned and 64 (89%) participants completed the lipid profile tested at 24 weeks of follow up. A reduction of LDL-C at least 10 mg/dL was significantly associated with higher percentage of polyunsaturated fat (adjusted OR=1.50, 95% CI=1.05, 2.14). A significant reduction of at least 10 mg/dL was also observed with good knowledge of dyslipidemia (adjusted OR=6.03, 95% CI=1.40, 25.96).

Conclusions: The study demonstrated that knowledge of dyslipidemia and dietary consumption are important predictors for a reduction in LDL-C of at least 10 mg/dL. We recommend diet modification (substitution of saturated fatty acid with polyunsaturated fatty acid) and education about dyslipidemia should be provided to every HIV-treated dyslipidemia patient.

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