

Prevalence of ultrasound diagnosed non-alcoholic fatty liver disease among rural indigenous community of Sarawak and its association with biochemical and anthropometric measures

ABSTRACT

Although the association between non-alcoholic fatty liver disease (NAFLD) and metabolic syndrome has been previously firmly established, the prevalence of NAFLD and its risk factors in rural communities remains incompletely defined. This study aimed to determine the prevalence and factors associated with ultrasound-diagnosed NAFLD amongst a rural community in Sarawak. An indigenous village was randomly selected where all adults aged 21 years and above underwent an abdominal ultrasound, biochemical tests and an anthropometric assessment. Respondents with a score ≥ 8 on an alcohol-use disorders-identification test (AUDIT) indicating harmful or hazardous drinking were excluded. Seventy-seven respondents (46.8% male, mean age 48.4 SD 16.64), met inclusion criteria. The prevalence of ultrasound diagnosed NAFLD was 44.2% (n=34), among them 52.9% had moderate NAFLD. There were no significant age or gender differences between respondents with and without NAFLD, although those with NAFLD were older. Respondents with NAFLD had a significantly higher BMI than those without NAFLD ($p < 0.001$). Both male and female respondents with NAFLD had a significantly higher waist circumference than those without NAFLD ($p < 0.001$). Prevalence of diabetes, hypertension, hyperglycemia and hypertriglyceridemia were significantly higher among those with NAFLD. However, there were no significant differences in terms of percentage of unhealthy body fat and muscle, and serum HDL levels. Risk factors independently associated with NAFLD included male gender (odds ratio 0.06; 95% CI 0.008-0.523) and waist circumference (odds ratio 1.2; 95% CI 1.036-1.421). There was a high prevalence of NAFLD and the presence of more severe stages of disease in this indigenous population. Life-style related diseases, such as fatty liver disease, can occur in rural as well as urban populations.

Keyword: Ultrasound; NAFLD; Rural communities