

The Prevalence of Cardiovascular Risk Factors in the Young and Middle-Aged Rural Population in Sarawak, Malaysia

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Submitted: 22 Jun 2011

Accepted: 4 Jan 2012

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Abstract

Background: Coronary heart disease (CHD) was the second leading cause of death in Malaysia in 2006. CHD has known risk factors including hypertension, diabetes mellitus, and obesity.

Methods: This cross-sectional study examined the prevalence of cardiovascular risk factors among 260 participants aged 20 to 65 years in a rural community in Sarawak.

Results: The prevalences of overweight and obesity in this study were 39.6% and 11.9%, respectively. Approximately 13% of participants had hypertension, and 1.5% had a random blood sugar greater than 11.1 mmol/L. Chi-square tests showed significant associations between obesity and gender ($P = 0.007$), low high-density lipoprotein cholesterol and race ($P = 0.05$), high total cholesterol and age ($P = 0.007$), age and hypertension ($P = 0.011$), smoking and gender ($P < 0.001$), and smoking and income ($P = 0.050$). Age-adjusted logistic regression showed that women were 0.246 times more likely to be obese, that older participants (> 45 years) were 0.395 times more likely to have high cholesterol and that those with a higher monthly household income ($> RM830$) were 2.471 times more likely to smoke.

Conclusion: These findings indicate that we should be concerned about the high rates of overweight in this rural community to prevent obesity.

Keywords: adult, cardiovascular diseases, epidemiology, obesity, prevalence, risk factors

Introduction

The World Health Organisation (WHO) reported that cardiovascular diseases (CVD) caused 17.1 million deaths globally in 2004 and that 82% of these deaths took place in low- and middle-income countries (1). Of these deaths, 7.2 million were due to coronary heart disease (CHD), and another 5.7 million were due to stroke. The WHO also projected that Southeast Asia would have the largest percentage increase in CVD-related deaths by 2030 (1). CVD continues to exact a heavy burden in Malaysia. A study in one rural community in Peninsular Malaysia found that 26.3% of participants aged 15 years and older had hypertension (2). In another study, the prevalence of obesity was found to be 11.4% (3). Chia and Pengal (4) found that among

1417 participants aged 55 years and older in a semirural community in Malaysia, 34.9% were smokers, 18.8% had hypertension, 10.7% had diabetes mellitus, and 63.1% had total serum cholesterol levels greater than the desired upper limit of 5.2 mmol/L.

Hypertension, hypercholesterolaemia, and obesity are known risk factors for CHD. Rampal et al. (5) found a significant association between obesity and age, gender, ethnicity, urban/rural status, and smoking status. In urban China, being married was associated with the number of cigarettes smoked, while those with more education smoked significantly fewer cigarettes. In addition, participants with higher total family financial assets smoked less than participants with an average income did (6).