Cardiovascular disease risk factors and socioeconomic variables in a nation undergoing epidemiologic transition

Rahaj Rasiah1, Khalid Yusoff2, Amiri Mohammadreza3, Rishya Manikam3, Makmor Tumin1, Sankara Kumar Chandrasekaran3, Shabnam Khademi1 and Najmin Abu Bakar2

Abstract

Background: Cardiovascular disease (CVD) related deaths is not only the prime cause of mortality in the world, it has also continued to increase in the low and middle income countries. Hence, this study examines the relationship between CVD risk factors and socioeconomic variables in Malaysia, which is a rapidly growing middle income nation undergoing epidemiologic transition.

Methods: Using data from 11,959 adults aged 30 years and above, and living in urban and rural areas between 2007 and 2010, this study attempts to examine the prevalence of CVD risk factors, and the association between these factors, and socioeconomic and demographic variables in Malaysia. The socioeconomic and demographic, and anthropometric data was obtained with blood pressure and fasting venous blood for glucose and lipids through a community-based survey.

Results: The association between CVD risk factors, and education and income was mixed. There was a negative association between smoking and hypertension, and education and income. The association between diabetes, hypercholesterolemia and being overweight with education and income was not clear. More men than women smoked in all education and income groups. The remaining consistent results show that the relationship between smoking, and education and income was obvious and inverse among Malays, others, rural women, Western Peninsular Malaysia (WPM) and Eastern Peninsular Malaysia (EPM). Urban men showed higher prevalence of being overweight than rural men in all education and income categories. Except for those with no education more rural men smoked than urban men. Also, Malay men in all education and income categories showed the highest prevalence of smoking among the ethnic groups.

Conclusions: The association between CVD risk factors and socioeconomic variables should be considered when formulating programmes to reduce morbidity and mortality rates in low and middle income countries. While general awareness programmes should be targeted at all, specific ones should be focused on vulnerable groups, such as, men and rural inhabitants for smoking, Malays for hypertension and hypercholesterolemia, and Indians and Malays, and respondents from EPM for diabetes.

Keywords: Cardiovascular disease risk factors, Education, Income, Malaysia

* Correspondence: rajas@um.edu.my
1Faculty of Economics and Administration, University of Malaysia, 50603 Kuala Lumpur, Malaysia

© 2013 Rasiah et al; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.