



ELSEVIER

Contents lists available at ScienceDirect

# The Social Science Journal

journal homepage: [www.elsevier.com/locate/soscij](http://www.elsevier.com/locate/soscij)



## Determinants of the demand for health screening in Malaysia: The case of the aged population

Yong Kang Cheah<sup>a,\*</sup>, Kim-Leng Goh<sup>b</sup>

<sup>a</sup> School of Economics, Finance and Banking, College of Business, Universiti Utara Malaysia, 06010 UUM Sintok, Kedah Darul Aman, Malaysia

<sup>b</sup> Faculty of Economics & Administration, University of Malaya, 50603 Kuala Lumpur, Malaysia

### ARTICLE INFO

#### Article history:

Received 19 May 2015

Received in revised form 14 March 2017

Accepted 14 March 2017

Available online xxx

#### JEL classifications:

D01

I12

I18

#### Keywords:

Health

Insurance

Lifestyle

Screening

Socioeconomic factors

### ABSTRACT

The increase in the prevalence of heart disease has become a serious public health issue. Hypercholesterolemia and hypertension are two main modifiable health risk factors for heart disease. In a fast ageing society, proper preventive measures should be adopted, particularly to achieve healthy aging. The objective of the present study is to examine the factors affecting the use of two health tests, namely blood cholesterol and blood pressure screenings among adults aged 60 years and above in Malaysia. Nationally representative data collected through the National Health and Morbidity Survey 2011 (NHMS, 2011) by the Ministry of Health, Malaysia were analysed. The survey used a two-stage stratified sampling method. Enumeration Blocks were selected in the first stage, while the second stage involved selection of Living Quarters. The proportions of those not using the blood cholesterol (45.4%) and blood pressure (30.8%) tests are alarmingly high. A bivariate probit model is applied to examine the determinants of the use of these two health screening tests. The results show that education, ethnicity, location of residence, employment status, health insurance and smoking significantly affect the decision of the aged population to undergo these tests. Key findings are, first, time is a more dominant factor than income in determining health screening behaviour among the aged population. Second, being covered by insurance increases the propensity to undergo health screening. Third, smokers have a lower likelihood of screening than non-smokers. The findings suggest that intervention programmes should be targeted at the less-educated, employed individuals, individuals not covered by health insurance and smokers.

© 2017 Western Social Science Association. Published by Elsevier Inc. All rights reserved.

### 1. Introduction

Heart disease has become the leading factor of medically certified deaths in Malaysia, causing a huge increase in both medical and social costs (Institute for Public Health, 2008). It is widely asserted that hypertension and hypercholes-

terolemia are among the main modifiable risk factors that contribute to heart disease. The official report of Ministry of Health Malaysia revealed that a large proportion of adults aged 60 years and above in Malaysia were diagnosed with hypertension (74.1%) and hypercholesterolemia (57.2%) (Institute for Public Health, 2011). The figures are alarming, especially in the context of a fast ageing society like Malaysia. As projected by Tey, Ng, and Tan (2014), the median age of the Malaysian population would rise steadily from 26 in 2010 to 37 in 2040. They asserted that the aging population contributed to a disturbing rise in dependency

\* Corresponding author.

E-mail addresses: [cheahykang@gmail.com](mailto:cheahykang@gmail.com), [yong@uum.edu.my](mailto:yong@uum.edu.my) (Y.K. Cheah), [klgoh@um.edu.my](mailto:klgoh@um.edu.my) (K.-L. Goh).

ratio that is taking place due to a faster increase in the number of non-working population than the number of working population. The twin problems added to the burden on the productive population and put a strain on resources where health expenditure was expected to increase from Ringgit Malaysia (RM) 34 billion [United States Dollar (USD) 8.45 billion] in 2010 to RM 59 billion (USD 14.66 billion) in 2020. Healthy ageing, is thus, high on the public policy agenda to address the problems.

Screening offers a pre-cursory indicator of health and well-being. An early detection of abnormal level of blood pressure and cholesterol through screening can significantly reduce the risk of hypertension and hypercholesterolemia (Kuklina, Yoon, & Keenan, 2010; Lindsay et al., 2013). In response to the global policy priority of encouraging regular health screening, a rather large literature on the determining factors of the use of health screening has emerged. The majority of past studies focused on USA and other developed countries (Hsieh & Lin, 1997; Kenkel, 1994; Lairson, Chan, & Newmark, 2005; Lin, 2008; Tian, Chen, & Liu, 2010; Zhang, Tao, & Irwin, 2000). However, little attention has been devoted to developing countries. This includes Malaysia where heart disease is the number one killer for the past three decades (The Malay Mail, 2013). The age-standardized death rate of this top killer, 138.75 per 100,000 persons, ranked world top 57 (World Health Rankings, 2010). The problem is more acute among the aged population. The share of the total burden of disease attributed to ischemic heart problems was estimated to be 21% for those aged 60 years or older, compared to 10% for the 30–59 age group. The corresponding figures due to other cardiovascular diseases were 12% for the 60+ age group, in contrast to 7% for the 30–59 age group (World Health Organization, 2011).

Previous studies exhibited that the factors affecting the decision of people to use health screening tests are age, income, gender, education, marital status, insurance and smoking. The relationship between age and the decision to undergo health screening remained unclear. On one hand, Hsieh and Lin (1997) and Tian et al. (2010) found that older individuals were more likely to use health screening tests than younger individuals. Kenkel (1994), Lairson et al. (2005) and Elit et al. (2013), on the other hand, suggested otherwise. Evidence on the relationship between income and the use of health screening tests was documented in Zhang et al. (2000), Abraido-Lanza, Chao, and Gammon (2004), Lairson et al. (2005) and Halliday, Taira, Davis, and Chan (2007). They reported that individuals with higher income were more likely to go for health screening than individuals with lower income. Lairson and Swint (1978) and Hsieh and Lin (1997) found that females were more likely to use health screening tests than males. However, their findings contradicted those of So et al. (2012) and Fedewa et al. (2015).

The positive relationship between education and health screening was well documented in the literature (Abraido-Lanza et al., 2004; Belkar, Fiebig, Haas, & Viney, 2006; Kenkel, 1994; Lairson et al., 2005). Yi (1994), Lin (2008) and Tian et al. (2010) reported that married individuals were more likely to use health screening tests than unmarried individuals. Evidence in the literature suggested that

health insurance coverage was positively associated with the odds of going for health screening (Hsieh & Lin, 1997; Kenkel, 1994; Lairson et al., 2005; Sing, Leuraud, & Dupont, 2013; Zhang et al., 2000). In terms of lifestyle, smoking was reported to reduce the likelihood of using mammogram among the elderly women (Lairson et al., 2005). Furthermore, Lin (2008) showed that individuals who exercised frequently and did not smoke were more likely to have health screening than those who seldom exercised and had the habit of smoking.

While Dunn and Tan (2010, 2011) investigated the factors affecting the use of health screening tests in Malaysia, they did not consider the effects of health insurance and lifestyle. Further, these studies were confined to the utilization of cervical and breast cancer screenings among women. Within the scope of geriatric studies, Ng, Tengku-Aizan, and Tey (2011) examined the impact of lifestyle on health status of the elderly in Malaysia, but they did not consider the factors associated with health screening. Studies on health screening utilization behaviour particularly of the aged population that provides useful policy information for reducing the prevalence of heart disease are scarce in the literature. It is essential for the policy makers to have better knowledge of the characteristics of health screening users and non-users prior to developing appropriate intervention measures. In view of this gap, the objective of the present study is to examine how the socioeconomic and lifestyle factors as well as availability of insurance protection affect the decision to undergo two types of health screening, namely, the blood cholesterol and blood pressure tests among adults aged 60 years and above in Malaysia.

## 2. Methods

### 2.1. Sample

A nationally representative dataset collected in the National Health and Morbidity Survey 2011 (NHMS, 2011) is used in the present study (Institute for Public Health, 2011). This cross-sectional population-based survey was conducted by the Ministry of Health Malaysia in 2011. The NHMS 2011 was the latest dataset made available to the researchers at the time of the study. The survey, carried out in the urban and rural areas in all the states of Malaysia, used a two stage stratified sampling approach that was proportionate to the size of population. The first stage sampling units were Enumeration Blocks (EBs) defined according to geographically contiguous areas of the country. The second stage sampling units were formed from Living Quarters (LQs). All the individuals that resided in the selected LQs were enumerated. Institutional population (those staying in hotels, hostels and hospitals) were excluded from the survey. The sample size was chosen according to the formula for prevalence studies that depends on the expected prevalence of diseases and health related problems in the population. A margin of error between 0.01 and 0.05 was allowed and the level of confidence was set at 95%.

The sample for this study includes all the individuals who were at least 60 years old at the time of the NHMS.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات