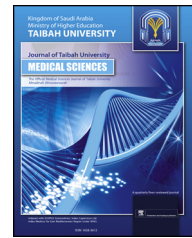




Taibah University  
Journal of Taibah University Medical Sciences

www.sciencedirect.com



Original Article

## Prevalence of optimal cardiovascular screening activities and associated factors among apparently healthy school teachers in Kota Bharu, Kelantan

Rahman A. Noraza, MMED<sup>a</sup>, Noor M. Norhayati, PhD<sup>b,\*</sup>,  
Muhamad Rosediani, MMED<sup>b</sup> and Yusoff M. Harny, MMED<sup>c</sup>

<sup>a</sup> Klinik Kesihatan Batu 30, Jalan Kuala Krai, Machang, Kelantan, Malaysia

<sup>b</sup> Department of Family Medicine, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Malaysia

<sup>c</sup> Universiti Sultan Zainal Abidin, Medical Campus, Jalan Sultan Mahmud, Kuala Terengganu, Terengganu, Malaysia

Received 16 May 2017; revised 24 October 2017; accepted 31 October 2017; Available online ■ ■ ■

### المخلص

**أهداف البحث:** تهدف هذه الدراسة لتحديد مدى انتشار أنشطة الفحص الأمثل لأمراض القلب والأوعية الدموية، والعوامل المرتبطة بين معلمي المدارس الذين يظهر أنهم أصحاء.

**طرق البحث:** تم إجراء دراسة مقطعية تحليلية رصدية على 380 من معلمي المدارس الثانوية في كيلانتان، ماليزيا. وزعت استبانة تعباً ذاتياً فيما يتعلق بالبيانات الديموغرافية والعوامل المؤثرة على أنشطة الفحص الأمثل لأمراض القلب والأوعية الدموية. تم إجراء التحليل الوصفي، وتحليل الانحدار اللوجستي البسيط والمتعدد.

**النتائج:** استجاب 348 معلماً؛ بمعدل استجابة 91.6%. وكان مدى انتشار أنشطة الفحص الأمثل لأمراض القلب والأوعية الدموية 29.3% (95% فاصل ثقة: 24.52، 34.08). ظهر أن العمر، والمعرفة عن الفحص لأمراض القلب والأوعية الدموية، والتاريخ العائلي لأمراض القلب والأوعية الدموية وتوفر المرافق الصحية ترتبط ارتباطاً كبيراً مع فحص أمراض القلب والأوعية الدموية.

**الاستنتاجات:** مدى انتشار أنشطة الفحص الأمثل لأمراض القلب والأوعية الدموية كان منخفضاً. وكانت الغالبية العظمى من العوامل التي تسهم في الفحص الأمثل قابلة للتعديل. لذا ينبغي من مقدمي الرعاية الصحية تنفيذ الصحة العالمية على نطاق واسع بدلاً من التقييم الموجه للأمراض في ممارستهم اليومية.

**الكلمات المفتاحية:** فحص أمراض القلب والأوعية الدموية؛ خطر أمراض القلب والأوعية الدموية؛ الفحص الصحي؛ تاريخ العائلة؛ معلمي المدارس

### Abstract

**Objectives:** This study aimed to determine the prevalence of optimal cardiovascular disease (CVD) screening activities and the associated factors among apparently healthy school teachers.

**Methods:** A cross-sectional analytical observational study was conducted among 380 secondary school teachers in Kelantan, Malaysia. A self-administered questionnaire addressing sociodemographic data and factors influencing CVD screening activities was administered. Descriptive analysis, simple and multiple logistic regression analyses were performed.

**Results:** A total of 348 teachers responded to the questionnaire, with a response rate of 91.6%. The prevalence of optimal CVD screening activities was 29.3% (95% CI: 24.52, 34.08). Age, knowledge of CVD screening, family history of CVD and availability of health facilities were significantly linked to CVD screening.

**Conclusion:** The prevalence of optimal screening activities was low. A great majority of the factors contributing to optimal screening were modifiable. Health care providers should widely implement global health-oriented rather than disease-orientated assessment in their daily practice.

\* Corresponding address: Department of Family Medicine, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia.

E-mail: hayatikk@usm.my (N.M. Norhayati)

Peer review under responsibility of Taibah University.



Production and hosting by Elsevier

1658-3612 © 2017 The Authors.

Production and hosting by Elsevier Ltd on behalf of Taibah University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>). <https://doi.org/10.1016/j.jtumed.2017.10.005>

Please cite this article in press as: Noraza RA, et al., Prevalence of optimal cardiovascular screening activities and associated factors among apparently healthy school teachers in Kota Bharu, Kelantan, Journal of Taibah University Medical Sciences (2017), <https://doi.org/10.1016/j.jtumed.2017.10.005>

**Keywords:** Cardiovascular disease screening; Cardiovascular risk; Family history; Health screening; School teachers

© 2017 The Authors.

Production and hosting by Elsevier Ltd on behalf of Taibah University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Introduction

A recent National Health and Morbidity survey (NHMS) in 2015 showed that hypertension, diabetes, dyslipidemia, obesity, smoking and physical inactivity among the Malaysian population has steadily increased in prevalence. The survey revealed that about 73% of deaths in Malaysia were from noncommunicable diseases (NCDs), with CVD being the biggest contributor. An estimated 35% of deaths were found to occur in individuals aged less than 60 years, an age group that represents the majority of the working population.<sup>1</sup>

The NHMS in 2011 showed that at least 63% of adults aged 18 years and above had at least one NCD risk factor (either overweight/obesity, high blood pressure, high blood sugar or high blood cholesterol).<sup>2</sup> The progression of NCDs is dependent on the presence and severity of risk factors. Hypertension, dyslipidemia, obesity, insulin resistance, inflammation and hypercoagulable states, physical inactivity and smoking are modifiable risk factors for CVD, while age, race, sex, and family history of CVD are nonmodifiable risk factors for CVD. The Framingham Heart Study showed that these risk factors are additive in predictive power and can be quantified to assess the risk for CVD.<sup>3</sup> The total risk for a person can be estimated by the summation of risk imparted by each major risk factor. If untreated, any major risk factor has the potential to induce CVD. An assessment of global risk can be useful in identifying high-risk patients who require immediate attention and intervention, modifying risk based on total risk estimates, and motivating the patient to adhere to treatment.

McCluskey et al. suggested that population screening for CVD is an effective strategy for identifying and reducing risk among high-risk individuals, thereby playing a significant role in the prevention and control of CVD.<sup>4</sup> A cardiovascular disease screening program has been launched by the Malaysia Ministry of Health under the concept of NCD control programs for promoting wellness. The cardiovascular screening program targets people who are 35 years and above or those with high-risk factors for CVD.

There are no particular guidelines or recommendations that define optimal cardiovascular screening activities. Recommendations of the various health authorities for screening and risk assessment for CVD have not defined what is optimal for CVD screening in primary care. One systematic review compared various guidelines for CVD screening but no consensus was found regarding target populations, treatments and screening tests.<sup>5</sup> Optimal screening has been defined as five or more screening activities (i.e., assessment of blood pressure, blood glucose level, blood cholesterol, body mass index (BMI) and smoking), based on the recommendation of several guidelines.<sup>6–10</sup> No local data

are available on the magnitude of apparently healthy people who have undergone CVD screening. This study aimed to determine the prevalence of optimal cardiovascular screening activities and the associated factors among apparently healthy school teachers.

## Materials and Methods

### *Population and sample*

This cross-sectional analytical observational study was conducted among secondary school teachers in Kota Bharu district, Kelantan, Malaysia. Teachers aged 40 years and above and not known to have CVD were included in this study. The cut-off point of age 40 years and above was used because the health care delivery model for prevention of CVD is generally focused on screening for people between the ages of 20 and 40 years and is focused on risk assessment for those ages 40 and above.<sup>11</sup> Teachers with a history of diabetes mellitus, hypertension, cerebrovascular accident, peripheral vascular disease, active malignancy, mental illness and those on hormone replacement therapy were excluded from the study.

Multistage random sampling was applied. Simple random sampling of 14 out of 38 secondary schools was used based on a list of government secondary schools in Kota Bharu. In each school, 27 teachers were randomly selected by disproportionate sampling. Prior to actual data collection, a pilot study among 47 teachers was conducted to pretest the questionnaire for understandability, to estimate the length of time required to complete and to obtain information for sample size calculation. The sample size was calculated using a single proportion formula<sup>12</sup> based on the prevalence of 34% from the pilot study. Taking precision of 0.05 with 95% confidence, the minimum required sample size was 345. After considering a nonresponse rate of 10%, the required sample size was 380.

### *Research tools*

Self-administered questionnaires consisting of three sections were administered. Section 1 queried sociodemographic data such as age, sex, household income (in MYR), education level, race, and marital status. Section 2 addressed the factors associated with cardiovascular screening activities, such as availability of health facilities, accessibility of health clinics, health insurance policy, knowledge of CVD screening, family history of CVD and cost. Section 3 contained questions on cardiovascular screening activities, such as assessment of family history of CVD, history of blood pressure measurement (at least once in the previous one year), history of blood lipid measurement (at least once in the previous 5 years), history of blood glucose measurement (at least once in the previous one year), history of BMI measurement (at least once in the previous 2 years), smoking status assessment, exercise level assessment and nutritional intake assessment.

### *Data collection*

During the first visit to the schools, the researcher briefed the teachers regarding the survey. Teachers were screened for

Download English Version:

<https://daneshyari.com/en/article/8759421>

Download Persian Version:

<https://daneshyari.com/article/8759421>

[Daneshyari.com](https://daneshyari.com)