

The Association Between Medication Adherence and Uncontrolled Hypertension

Tan Hooi Shyuan, MPH^{1,2}, Ahmad Azuhairi Ariffin, MCOMMed¹, Nor Afiah Mohd Zulkefli, PhD¹, Feisul Idzwan Mustapha, MPH²

¹Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, ²Ministry of Health, Malaysia

ABSTRACT

INTRODUCTION: The aim of hypertension treatment is to reduce cardiovascular and renal morbidity and mortality. Medication adherence is a major cause of treatment failure. This study aimed to assess the association between medication adherence and uncontrolled hypertension. **METHODS:** A health clinic based unmatched case control study with 1:1 ratio was conducted among 334 hypertensive patients from a district of Penang. Cases were hypertensive patients with uncontrolled hypertension (BP \geq 140/90mmHg), while controls were those with controlled hypertension (BP<140/90mmHg), selected by simple random sampling from appointment list. The independent variables were sociodemographic data, clinical factors and medication adherence. Data collection was done with validated interviewer assisted questionnaires and medical record reviews. **RESULTS:** The mean age of respondents was 59 years (SD=11), with majority were females (60%) and Malays (53%). Most had hypertension for less than five years (44%), with comorbidity (60%), were overweight or obese (80%), on two or more antihypertensive agents (55%), and once daily medication regime (92%). More than half of respondents (57%) were found to have poor medication adherence, which was among 83% of cases, and 31% of controls (p<0.001). Simple logistic regression showed poor medication adherence increased the odds of uncontrolled hypertension by 11 times compared to good medication adherence (OR: 11.29, 95%CI: 6.69, 19.05). Those using two or more antihypertensive agents increased the odds of uncontrolled hypertension by 1.6 times compared to those on single antihypertensive agent (OR: 1.63, 95%CI: 1.05, 2.51). **CONCLUSION:** Improving medication adherence is vital in tackling uncontrolled hypertension.

KEYWORDS: medication adherence, hypertension, case control study

The Benefits of Palm Oil for Human Health

Kanga Rani Selvaduray, PhD

Malaysian Palm Oil Board

ABSTRACT

About 85% of palm oil produced is used in food applications and continuous effort is needed update and share the benefits of palm oil for human health. Research on nutritional benefits of palm oil over the past three decades, have demonstrated the nutritional properties of palm oil and its products. Numerous studies have demonstrated that palm oil exhibited similar effects as unsaturated oils with regards to the effects on blood lipid parameters. Palm oil has also been shown to be a healthy alternative to partially-hydrogenated fats containing trans-fatty acids which have been demonstrated to have deleterious effects on health especially cardiovascular disease risks. It is hypothesized that the similar effects of palm oil on blood lipids, which is comparable to other vegetable oils could be due to the structure of the major triglycerides in palm oil and the positional distribution of its fatty acids, namely unsaturated fatty acid in the sn-2 position of the glycerol backbone. Additionally, palm oil is rich in phytonutrients beneficial to health, such as tocotrienols, carotenoids and phytosterols. An updated overview of studies on palm oil and palm phytonutrients will be presented.

KEYWORDS: palm oil, nutrition, health, lipid, phytonutrients, tocotrienols, carotenoids