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# RESEARCH ARTICLE

# Determinants of Health Literacy and Healthy Lifestyle against Metabolic Syndrome among Major Ethnic Groups of Sarawak, Malaysia: A Multi-Group Path Analysis

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#### Abstract:

#### Introduction:

Non-communicable diseases like metabolic syndrome can be prevented and controlled by practicing healthy lifestyle.

Although health literacy is a critical factor in lifestyle modification to prevent non-communicable diseases and its complications, its role on metabolic syndrome prevention is still understudied.

# Objective:

The main aim of this study was to identify the determinants of health literacy and healthy lifestyle practice against metabolic syndrome among multi-ethnic group of Sarawak based on health literacy skills framework.

### Methods:

Using a stratified multistage sampling, a total of 1006 respondents were recruited to represent the major ethnic groups in Sarawak, Malaysia. Moderator variables, mediator variables and outcome variable (healthy lifestyle practice) were tested using path analysis to examine multiple and interrelated dependence relationships. Multi-group analysis was performed to compare structural models between major ethnic groups in Sarawak, namely Malay/Melanau, Native groups and Chinese.

# Results:

Female respondents and those with higher education status were more likely to have better healthy lifestyle practice. Greater level of health literacy was positively significant with both disease knowledge and healthy lifestyle practice. Participants with good understanding of disease knowledge can directly influence healthy lifestyle. Simultaneously, health literacy and metabolic syndrome knowledge can mediate the relationship between sociodemographic variables, service accessibility, medical and family history with practice of healthy lifestyle. Multi-group path analysis indicated differences in causal pathway leading to healthy lifestyle practice among the ethnic groups.

#### Conclusion:

Health programs or interventions to increase health literacy skills and better understanding of metabolic syndrome will improve practice of healthy lifestyle. Culturally sensitive multidimensional approaches are needed to ensure health-related information can be delivered effectively across the state.

Keywords: Health literacy, Metabolic syndrome knowledge, Healthy lifestyle practice, Ethnic groups, Multi-group path analysis, Sarawak.

Article History Received: February 17, 2019 Revised: April 04, 2019 Accepted: April 08, 2019

#### 1. INTRODUCTION

The burden of Non-Communicable Diseases (NCD) is rising due to their risk factors. Sedentary lifestyle behaviours such as physically inactive, unhealthy food intake, alcohol consum-ption and use of tobacco products are the known risk

factors. The World Health Organization stated that in 2016, more than 2/3 (40.5 million) deaths were contributed by non-communicable diseases [1]. Metabolic syndrome is a clustering of at least 3 to 5 diseases which are associated with the risk of developing type II diabetes and cardiovascular disease [2]. A secdentary lifestyle has been established as the main culprit