

# Domain-specific physical activity among indigenous overweight and obese communities in Sarawak

## Authors' Contribution:

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Data Interpretation
- E Manuscript Preparation
- F Literature Search
- G Funds Collection

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## abstract

**Background** Physical activity is important to maintain health and to prevent non-communicable diseases.

**Material/Methods** We evaluated physical activity in four domains (leisure time, occupational, domestic and transportation ones) and its sociodemographic correlates in 351 adult overweight and obese indigenous people in Sarawak, Malaysia. Physical activity was assessed using the Malay version of the International Physical Activity Questionnaire (IPAQ) long form. The data were analysed using SPSS version 20.

**Results** More than 40% of the respondents (43.5%) were obese. The overall median total MET-minutes were 6180.0 (IQR = 10229.0). A total of 53% of the respondents were moderately active with the majority of them being female (55.6%). The overall median total MET-minutes were low for leisure and transportation domains. Females were more active in the domestic domain, while males in the work and leisure-time domains of physical activity. Younger respondents (< 30 years) had the lowest level of physical activity. There is a significant positive relationship of gender with work, domestic and leisure-time domains of physical activity, and of occupation with work and leisure-time domains as well as all domains of physical activity.

**Conclusions** Studies on physical activity among overweight and obese adults should examine all domains in order to understand its relationship and weight problem.

**Key words** physical activity, correlates, domains specific, indigenous people, community, overweight & obesity

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## INTRODUCTION

This paper presents the level and correlatives of domain-specific physical activity of indigenous overweight and obese adults in Sarawak, a state of Malaysia. Physically inactive adults are at risk for diabetes, ischaemic heart disease, breast and colon cancers [1]. Regular physical activity is important to maintain adults' physical well-being [1] and mental health [2]. This level of health is attainable if adults have at least 150 minutes of moderate-intensity aerobic physical activity or at least 75 minutes of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, based on the WHO recommendation [1].

Although regular physical activity is beneficial, not many Malaysian adults in Sarawak are active. In the Malaysian Adults Nutrition Survey (2002–2003) [3], out of 6,926 respondents, approximately 10% were adults from Sarawak. The study found that for Sarawak, 31.4% (95% CI = 26.2–37.1) reported they exercised and 14.0% (95% CI = 10.7–18.1) claimed that they had adequate exercise. In the same study, 31.1% (95% CI = 26.3–36.3) of the respondents were sedentary, 50.9% (95% CI = 45.6–56.3) moderately active, and 18% (95% CI = 14.3–22.3) active. Whether the mentioned study differentiated exercise from physical activities or not cannot be ascertained.

The term “exercise” should not be taken as equal to “physical activity”. Physical activity involves bodily movement and is done as part of playing, working, active transportation, house chores and recreational activities and exercise is one of its subcategories [1]. The different types of physical activity are termed the domains of physical activity [4]. The frequency of each domain of physical activity varies between countries, as people in low- and medium-income countries perform more work, household and transport domains rather than leisure-time physical activities than their peers in high-income countries [5]. In addition, different studies also show different factors correlated with different domains of physical activity [6, 7].

There is a suggestion that high rates of obesity might be a contributing factor to low total physical activity [4]. However, another study suggests that obese adults who are metabolically healthy engaged in higher levels of total and recreational but not household or transportation physical activity [8]. Interventions to reduce physical inactivity should use evidence-based mediators to ensure success [4] and should especially target those who are overweight or obese. As there is no published literature regarding domain-specific physical activity and its correlates among adults in Sarawak, especially among overweight and obese adults, the present study was conducted to fill the gap.

## MATERIALS AND METHODS

This cross-sectional study was conducted among 358 overweight and obese adults (response rate: 94.7%) residing in urban and rural areas of Kuching and Samarahan Division. Multistage sampling was used to recruit respondents from six villages each in rural as well as urban areas of these divisions. In the selected villages, promotion of the study was done through the head of the village. All adults (18–64 years old) were invited to attend a health screening session conducted at the village community hall. Respondents who were overweight (body mass index [BMI] 25–29.9 kg/m<sup>2</sup>) or obese (BMI ≥ 30 kg/m<sup>2</sup>),