

ORIGINAL ARTICLE

Physical Inactivity: The Difference Among Gender in Kg Bukit Bangkong, Sg Pelek, Sepang, Selangor

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ABSTRACT

Introduction: Women are less active than men in most nations. Insufficient physical activity is a leading risk factor for non-communicable diseases and can impact on mental health and quality of life. For this reason, the aim of our study is to identify the prevalence of physical activity and to see if there were gender differences. **Methods:** A cross sectional study was carried out at Kampung Bukit Bangkong, Sg Pelek, Sepang, Selangor among Malaysians, aged more than 18 years old and residents for at least one month, which were selected via 3 different types of sampling method. Data was gathered using face-to-face interview, with a validated set of questionnaires. **Results:** The overall prevalence of physical inactivity was higher among women (60.8%) compared to male (39.2%). Among the physically inactive respondents, 40% were in the age group of above 60 years, married (87.1%), adults with secondary education (55%), and self-employed (90.7%). “Not enough time” was reported as the common barrier for both men and women. **Conclusion:** The prevalence of physical inactivity was higher in females compared to males. However, statistically there was no significant difference between both genders. The promotion of physical activity should be strengthened with focusing on gender specific interests.

Keywords: Physical inactivity, Gender, Rural, Sepang

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INTRODUCTION

Physical activity is characterized as movement by skeletal muscles in any part of the body that requires energy expenditure (1). Adults that engage in regular and optimum level of physical activity contribute significantly to their energy consumption and are crucial for maintaining energy balance and weight management (2). It also decreases abdominal fat and alters body shape in a positive way (3). Inactivity was significantly associated with the risk of overweight/ obesity (2).

The prevalence of physical inactivity is surging around the world and is linked to a variety of chronic illnesses, such as coronary heart disease, hyperlipidemia, hypertension, and diabetes mellitus Type 2 (4-5). The National Health and Morbidity Survey 2015 revealed that the overall prevalence

of physically inactive remains high in Malaysia (33.5%) (6) which was similar to high-income countries (33%) and 58% of them were overweight/ obese (7). More than one fifth of adults worldwide are physically inactive, according to a study released in The Lancet Global Health in 2018. Women are less active than men in most countries (31.7% for inactive women vs 23.4% for inactive men) (8).

Several studies have found gender disparities in physical activity participation. Few research have looked into the gender differences in exercise motivation in Asian countries. According to a Malaysian study, men’s incentives to exercise were more connected to intrinsic variables such as strength growth, competitiveness, and challenge. Women’s motives, on the other hand, were more connected to extrinsic variables, such as weight control and achieving an appealing look.

A study conducted in Kg Hulu Chuchoh, Sepang found that males were slightly more physically inactive than females, whereas another study conducted in Dengkil, Sepang found that females

were more physically inactive than males (9,10). As the result, we conducted a study to determine whether or not gender differences influence the physical activity levels in Kampung Bukit Bangkong, Sepang, Selangor.

MATERIALS AND METHODS

A descriptive cross-sectional research was conducted in an urban area of Kg Bukit Bangkong, Sepang, Selangor, with a population of about 3000 people. The housing area consisted of 550 houses of approximately seven to eight residents each. It has mainly single-storey unit houses, with the occasional double-storey unit house, varying from low to high cost. The region consisted mostly of families working in government, private sectors and also as farmers. It is also noted that the race in the community is only Malay and Javanese Malay. The inclusion criteria of this study are all Malaysians, over the age of 18 who had lived in Kampung Bukit Bangkong for at least one month, were not mentally disabled, and were not deaf or mute. Non-response among respondents was regarded when there was refusal to participate in the survey or not being present during the survey after three approaches.

The sample size for this study was determined based on single proportion formula. Proportion of physical activity was calculated according to previous research finding, giving a sample size value of 175, and after considering the 10% for non-respondent, the final sample size for this study was 193. From a total of 550 houses, stratified sampling was done by dividing the residential area into single storey houses and double storey houses. After obtaining the sample size of the houses, we used systematic random sampling to figure out how many houses will be selected from each stratum to satisfy the sample size for the study. With formula of proportion ratio, every third house was chosen to participate in the survey. Next, respondents were selected through simple random sampling from each house.

Face-to-face interviews were carried out using a series of standardized questionnaires from NHMS (2015) (6) which comprises of two parts. Part 'A' was about sociodemographic factors and part 'B' was to assess physical activity level. To assess physical activity, participants were required to answer their frequency of involvement in these three specific types of activities; walking, moderate, and vigorous intensity activity. Based on this questionnaire, the participants would be categorized into 'active' and 'inactive'. The questionnaire was explained to the respondents of the reason and purpose of study. The data was self-reported and completed by the participants themselves. Pre-test was conducted on samples that are similar as

respondents, and the time taken to ask the questions was measured prior to the onset of data collection in order to see if the questions are understandable, relevant, and would not last too long.

The prevalence and relative frequency (percentage) for physical activity status and sociodemographic variables were calculated using descriptive statistics. Multivariate logistic regression along with the Pearson chi-square test were used for bivariate analysis to form association between categorical variables. For all tests, the data considered statistically significant by a p-value < 0.05 at confidence level of 95%. Descriptive and statistical analysis was organised and carried out by using SPSS version 23.

RESULTS

A total of 206 residents participated in the study. The survey was completed by all of the selected respondents, with no drop-outs giving a response rate of 100% with a total number of 101 male and 105 female respondents. Majority of the population was above age 60 (28.6%), with Malay as the dominant race at 90.3%, and mostly were married (80.6%). In terms of education, majority of the population reached secondary education (51.0%) while only 2.4% did not receive any formal education. The population is mainly made up of self-employed workers (24.3%), followed by housewives (22.3%), and those who worked in private sector (18.4%). Income-wise, the B40 group was the majority at 78.2%, followed by the M40 group (18.9%). These are shown in Table I.

Majority (75.2%) of the respondents were physically active (Table II) with a higher prevalence of physical inactivity was noted among females (60.8%) and it was almost twice compared to males (39.2%). However, statistically there was no significant difference among gender (OR=1.882, CI=0.987, 3.588) (Table III).

For both male and female respondents, there were higher prevalence of physical inactivity among 60 years old and above (40% vs 32.3%), married (85% vs 87.1%), and self-employed (30% vs 90.7%). However, respondents with primary school education were higher in prevalence (35.5%) among females compared to secondary school among male respondents (55%) (Table IV). The three most reported barriers towards being physically active among women respondents were not enough energy (38.7%), not enough time (25.8%) and health issues (22.6%). Among male respondents, they reported not enough time (50%) and self-perception; described as an individual's perception that their physical activity were already sufficient (15%), as the top barriers (Table V).

Table I : The distribution of study respondents by sociodemographic¹ factors

Sociodemographic data	n	%
Gender		
Male	105	51.0
Female	101	49.0
Age group		
18-24 years old	19	9.2
25-34 years old	32	15.6
35-44 years old	39	18.9
45-54 years old	41	19.9
55-59 years old	16	7.8
≥60 years old	59	28.6
Ethnicities		
Malay	186	90.3
Javanese	7	3.4
Orang Asli	12	5.8
Minang	1	0.5
Marital status		
Single	28	13.6
Married	166	80.6
Divorce/ Widow	12	5.8
Education level		
Non formal education	5	2.4
Primary education	46	22.3
Secondary education	105	51.0
Tertiary education	50	24.3
Occupation		
Not working	15	7.3
Student	9	4.4
Government/ Semi-Government	20	9.7
Private	38	18.4
Self-employed	50	24.3
Housewife	46	22.3
Retiree	28	13.6
Monthly income status		
<RM3,860 (B40)	161	78.2
RM3,860-RM8319 (M40)	39	18.9
≥RM8,319 (T20)	6	2.9

¹The frequency of gender is equally distributed between males and females at 51.0% and 49.0% respectively. Majority of the population was above age 60 (28.6%), with Malay as the dominant race at 90.3%, and mostly were married (80.6%). In terms of education, majority of the population reached secondary education (51.0%) while only 2.4% did not receive any formal education. The population is mainly made up of self-employed workers (24.3%), followed by housewives (22.3%), and those who worked in private sector (18.4%). Income-wise, the B40 group was the majority at 78.2%, followed by the M40 group (18.9%).

Table II : The prevalence of physical¹ inactivity

Physical Activity status	n	%
Active	155	75.2
Inactive	51	24.8
Total	206	100.0

¹Majority (75.2%) of the respondents are physically active.

DISCUSSION

Physical inactivity (PIA) which is defined as individuals that do not follow the weekly Global Physical Activity Recommendations, has been identified as a global risk factor for disease and mortality (11). PIA is the attributable risk factor for Diabetes Mellitus type 2 (12%), colon cancers (8%), and 9.7% of all-cause mortality in the European region of the World Health Organization (WHO); this strain reflects 2.270 disability-adapted life-years with illness over a lifetime (12).

Globally, PIA is consistently more common in women than in men (13-14). Higher prevalence of PIA among women compared to men in both 2013 and 2017 were shown in the evaluation of physical inactivity prevalence during period of 2013 - 2017 in the 28 European Union (EU) countries ($p < 0.001$) (15), which was consistent with our finding.

Similar findings on higher prevalence of physical inactivity among women was reported by Hoare (16) in which they discovered a correlation between body dissatisfaction and physical activity level. They found that males have higher body dissatisfaction than females and they would compensate by increasing their physical activity which may explain the finding in our study. Therefore, overweight/obese males tend to be more physically active than overweight/obese females. This was supported by a study conducted in Brisbane, Australia, who found that males were more physically active due to higher awareness of health with 'preventing cardiovascular conditions', 'to feel healthy', and 'losing weight' being the top three reasons for being physically active (17).

However, health issues were also one of the barriers among our female respondents from being physically active. As the higher age respondents also showed higher prevalence in PIA, this explained their perception of deteriorating age as the cause of their physical inactivity (18). It was further supported by Costello who reported that the ability to participate in physical activity among elderly is often limited by chronic health conditions (19), as the majority of the elderly believe that arthritis-related stiffness and pain play a significant role in their sedentary attitude (20).

Table III : The difference between gender and physical¹ inactivity

Gender	Physical activity status		Total, n (%)	Odd ratio (CI)	Chi square value	p-value
	Yes, n (%)	No, n (%)				
Male	85 (60.8)	20 (39.2)	105 (100)	1.000	3.748	0.053
Female	70 (39.2)	31 (60.8)	101 (100)	1.882 (0.987, 3.588)		

¹Prevalence of physical inactivity was higher among female (60.8%). However, statistically there was no significant difference among genders (OR=1.882, CI=0.987, 3.588)

Table IV : The prevalence of physical inactivity among gender by sociodemographic¹ characteristic

Sociodemographic factors	n	Inactive (N= 51)		p-value
		Male, n (%)	Female, n (%)	
		20 (39.2)	31 (60.8)	
Age group	18-24	1 (5.0)	3 (9.7)	0.770
	25-34	3 (15.0)	6 (19.4)	
	35-44	5 (25.0)	4 (12.9)	
	45-54	2 (10.0)	4 (12.9)	
	55-59	1 (5.0)	4 (12.9)	
	≥60	8 (40.0)	10 (32.3)	
Ethnicity	Malay	18 (90.0)	28 (90.3)	0.932
	Javanese	1 (5.0)	1 (3.2)	
	Native	1 (5.0)	2 (6.5)	
Marital status	Single	1 (5.0)	3 (9.7)	0.524
	Married	17 (85.0)	27 (87.1)	
	Divorce/ Widow	2 (10.0)	1 (3.2)	
Education level	Informal	0 (0)	2 (6.5)	0.160
	Primary	5 (25.0)	11 (35.5)	
	Secondary	11 (55.0)	8 (25.8)	
	Tertiary	4 (20.0)	10 (32.3)	
Occupation	Not working	2 (10.0)	3 (9.7)	0.052
	Student	0 (0)	2 (6.5)	
	Government	1 (5.0)	1 (3.2)	
	Private	5 (25.0)	8 (25.8)	
	Self-employed	6 (30.0)	3 (9.7)	
	Housewife	0 (0)	10 (32.3)	
Monthly income (RM)	Retiree	6 (30.0)	4 (12.9)	0.356
	<3,860 (B40)	18 (90.0)	25 (80.6)	
	3,860-8319 (M40)	2 (10.0)	3 (9.7)	
	>8,319 (T20)	0 (0)	3 (9.7)	
TOTAL		20 (100)	31 (100)	51 (100)

¹For both male and female respondents, there were higher prevalence of physical inactivity among 60 years old and above (40% vs 32.3%), married (85% vs 87.1%), and self-employed (30% vs 90.7%). However, respondents with primary school education were higher (35.5%) among female compared to secondary school among male respondents (55%).

Table V : Barriers¹ of physical inactivity by gender

Barriers	Male		Female		P-value
	n	%	n	%	
Not Enough Time	10	50.0	8	25.8	0.023
Not enough energy	2	10.0	12	38.7	
Health issues	2	10.0	7	22.6	
Lazy	2	10.0	4	12.9	
Self-perception	3	15.0	0	0	
No companion	1	5.0	0	0	
Total	20	100	31	100	

¹The most reported barrier towards physically active among women respondents were not enough energy (38.7%). Whereas not enough time (50%) was the top barrier among male respondents.

A survey among African adults found that marital status was related to physical activity in myriad ways ($p < 0.001$) (21). This was consistent with our study in which married women and men were more PIA compared to single adults. Although a study in China reported that single adults or those in a relationship were less likely to exercise on a daily basis (OR = 0.47; $p = 0.032$) (22), another study found that married people were less likely to engage in physical activity as they have increased responsibility as a partner and parents, thus having less time for themselves (23). This may be a plausible explanation for our finding.

Female respondents with tertiary education were more physically inactive (32.3%) compared to male (20%) within the same education level. It was consistent with a study conducted among Malaysian adults that shows a higher prevalence of physical inactivity in female (48.9%) compare to men (40.7%) with tertiary education (24). The fact that highly educated women secured better jobs while having to balance her roles and responsibilities in the house compared to men, thus, leaving them with less time for physical activity (25). Furthermore, pressures of work in the private sector which may contribute to a lack of time for adequate involvement in physical activity (24,26) might be the cause of private sector female employees being apparently more PIA than their counterpart. Another study also supports this finding, stating that it is plausible that work burdens could lead to a lack of time for sufficient physical activity participation (27,28).

CONCLUSION

There was a higher prevalence of being physically inactive among females compared to male, with 'not enough time' being one of the common barriers towards being physically active for both genders.

Therefore, consistent interventions and health education are crucial to promote better understanding on the benefit of physical activity to reduce risk of non-communicable diseases and improve quality of life. More promotion on non-time consuming physical activities should also be strengthened, targeting more on the female population.

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