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PHYSICAL ACTIVITY LEVEL AMONG WOMEN: PROMOTING SPORTS AND EXERCISES ACROSS DEMOGRAPHIC DETERMINANTS

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ABSTRACT

The top ten killer diseases in Malaysia are largely associated with inactivity. In relation to that, Malaysia has come out with policies on prevention, control and management of non-communicable diseases (NCD) into the social, economic and environmental systems through various stakeholders. Thus, this study examined the level of physical activity (PA) among women with regards to demographic profiles, namely marital status, occupation, academic qualification and BMI. A sample of 390 women in Selangor was randomly selected. This research employed a quantitative method using a set of questionnaire adapted from International Physical Activity Questionnaire (IPAQ) in order to obtain information from the respondents. Then, descriptive analysis was employed to obtain the frequency and percentage of PA level. ANOVA was also used to find out the difference in PA with regards to demographic profiles. This study revealed that women in Selangor were generally at low level of PA. In terms of marital status, single women were moderately participated in PA as compared to married and divorced women who participated in low PA. In terms of occupation, home maker, self-employed, white-collar and students participated moderately in PA. On the other hand, professionals and unemployed women participated

in low PA. It was also found that school leavers and women with certificate participated at moderate level of PA, yet, women with degree and above as well as diploma were doing low PA. Women with extra body weight, normal body weight and less body weight were found to participate at high, moderate and low level of PA respectively. Besides, findings proved that academic qualification and BMI were highly associated with PA participation. However, marital status and occupation did not associate with PA participation.

Keywords: *physical activity level, demographic determinants, sports, exercise*

INTRODUCTION

Health and wellness has become the main concern among all developing countries as it ensures quality life of nation, leading to stable economy. Referring to that, the tenth Malaysia Plan 2011-2015 stated that the Ministry of Health Malaysia is dedicated in shifting towards wellness and disease prevention (National Strategic Plan for Non-Communicable Disease, 2010). The policy also states that prevention, control and management of cardiovascular disease and diabetes will be made accessible for all partnership with various stakeholders and into the social, economic and environmental systems can help establish a strong platform for effective reduction of these diseases.

Frequent participation in physical activity could reduce the likelihood of acquiring non-communicable disease (NCD). Therefore, promoting regular PA has been a public health priority in many developed and developing countries including United States of America, United Kingdom, New Zealand, and Malaysia (WHO, 2010). It protects the body from cardiovascular diseases, preventing obesity, reduce effect of acquire aging, improve appearance, preventing posture defects, enhance mental health and improving quality of life (Biddle & Mutrie, 2001; WHO, 2010). Because of the many benefits for health of physical activity, recent analysis has suggested that reaching the recommended minimum level of physical activity is appropriate to maintain a healthy lifestyle.

However, many studies including international and local setting have indicated that people are not active enough to achieve the health benefits of PA. A study done among 233 Malay youth found that that almost 65% of the respondents were categorized as sedentary and approximately 50.2% of the respondents were overweight or obese (Hazizi, Aina, Mohd, Zaitun, Hamid & Tabata, 2012). It is supported by a study done by Ibrahim, Karim, Oon, & Ngah (2013) in which the results showed that among 730 respondents from Klang Valley, most of them (53.2%) presented a low level of physical activity, only 37.2% were active, whereas 9.6% of the subjects were sedentary. Furthermore, physical activity was found to be diverse based on gender. A study by Salamudin and Harun (2013) has also found that women were significantly less active than men.

Thus, it is important to understand the needs for physical activity involvement, considering active leisure time activity has not been a practice among many Malaysians specifically when the involvement is largely determined by the religious values (Aman, Fauzee & Mohamed, 2007). Hence, an adequate study of women's background will help health practitioners to provide individuals with suitable programs to engage in appropriate activities. Therefore, in order to come out with strategic implementation, this study aimed to examine the levels of physical activity among women in Selangor with regards to marital status, occupation, academic qualification and BMI.

REVIEW OF LITERATURE

Physical Activity (PA)

Physical activity refers to movement produced by the skeletal muscles that uses energy beyond resting levels. It involves work-related activities (walking, sweeping, lifting, etc.), transportation activities (walking to work, cycling to school, etc.), recreational activities (skating, rowing, gardening, etc.), and workout (Ward, Saunders & Pate, 2007). PA plays an important role in public health as it protects the body from cardiovascular diseases, preventing obesity, reduces effect of acquire aging, improves appearance, preventing posture defects, enhances mental health and improving quality of life (Biddle et al., 2001; WHO, 2010). Hence, it is recommended by the

American Heart Association (AHA) that adults age 18-65 should perform moderate-intensity of physical activity for a minimum of 30 minutes on five days each week or vigorous-intensity aerobic activity for a minimum of 20 minutes on three days each week (Haskell, Lee, Pate, Powell, Blair, Franklin, Macera, Health, Thompson & Bauman, 2007).

However, it was found in most previous studies that women had a lower likelihood of participating in physical activity compared to men (Cheah & Poh, 2014). This is likely due to the traditional role of gender. This is because women possess the natural characteristic as a family caretaker, they tend to allocate more time for home activity than leisure time physical activity (Wicker, Breuer, & Pawlowski, 2009).

Physical Activity (PA) and Demographic Profile

The level of PA participation is different across various demographic profiles. Other than age, ethnicity, marital status, body composition, occupation, education and substance use were also found to predict PA (Beverly & Wray, 2010; Dlugonski & Motl, 2013; Hawkins, Hornsby & Schorling, 2001; Kirk & Rhodes, 2011; Wang, DesMeules, Luo, Dai, Lagace, Morrison, 2011). For example, single people are more likely to be physically active than married (Beverly et al., 2010) and divorced (Dlugonski et al., 2013; Wang et al., 2011). While married people are less active due to family responsibility and spending time with kids.

Moreover, previous study revealed that BMI is significantly associated with sports and PA. Obviously, inactive people were more likely to be among the obese (Kirk et al., 2011). Besides that, other study also found that people with extra body weight are more concerned with their current health status, appearance, what friends think about weight, body mass index, thus, they may be classified in Action Stage based on The Trans Theoretical Model (TTM) (Hawkins et al., 2001). Since demographic profiles are largely related to PA participation among women, thus, it is important to study on the influence of demographic profile towards PA involvement among women.

METHOD

This study adopted a descriptive survey method of quantitative approach to investigate levels of physical activity and its differences based on demographic profiles among 390 adult women in Selangor.

A set of questionnaire was used as an instrument to investigate the levels of physical activity among women, adapted from "International Physical Activity Questionnaire (IPAQ)". IPAQ investigates time spent for three types of physical activities, namely vigorous activity, moderate activity and walking indicating low activity.

Validity and reliability tests were conducted, and experts confirmed that the questions measured the intended content area. A pilot study was also conducted to 30 women in Selangor. The Cronbach Coefficient Alpha Reliability test showed that all of the items were reliable as they have a high alpha factor of 0.906. Thus, the instrument is deemed reliable to be used to the population.

Data was collected in person using online survey of Google Document. Since the link of online survey was shared via mobile phone, email and social media, everyone has an equal opportunity to be selected as a sample.

The data from the questionnaire was analyzed using SPSS program. For levels of physical activity, descriptive statistics such as frequency and percentage were used to identify the low, moderate and high level of PA. Besides that, ANOVA test was used to find out the difference in total PA with regards to marital status, occupation, academic qualification and BMI.

RESULTS AND DISCUSSION

Respondents came from various demographic profiles (see Table 1). All respondents were women (N=390). A total of 92.1% (N=359) of them were young adults (18 to 40 years old) and 7.9% (N=31) were of adulthood (41 to 65 years old).

The respondents were single [72.1% (n=281)], married [27.2% (N=107)] and divorced [0.5% (N=2)] respectively.

In terms of occupation, 55.6% (N=217) of the women were students, 27.4% (N=107) were professionals, 5.6% (N=22) were self-employed, 4.9% (N=19) were white-collars, 4.4% (N=17) were home makers, while another 2.1% (N=8) were unemployed women.

Respondents were from various academic qualification, including degree and above, diploma, school leavers and certificate indicated by 70.3% (N=274), 13.8% (54), 8.7% (N=34) and 7.2% (N=28) respectively as in Table 1.

Lastly, respondents were also diverse in BMI. In Table 1 74.1% (N=289) of the respondents were categorized as less weight, 21.8% (N=85) were normal weight and 4.1% (N=16) were extra weight.

Table 1: Demographic Profile

Demographic Profile			Frequency	Percentage (%)
Marital Status	Single		281	72.1
	Married		107	27.2
	Widowed		0	0
	Divorced		2	0.5
	Separated		0	0
		Total	390	100
Occupation	Professional		107	27.4
	White-collar		19	4.9
	Blue-collar		0	0
	Self-employed		22	5.6
	Unemployed		8	2.1
	Homemaker		17	4.4
	Student		217	55.6
	Retiree		0	0
		Total	390	100.0
Academic Qualification	School leavers		34	8.7
	Certificate		28	7.2
	Diploma		54	13.8
	Degree & above		274	70.3
		Total	390	100.0
BMI	Less weight		289	74.1
	Normal		85	21.8
	Extra weight		16	4.1
		Total	390	100

Table 2 indicates the descriptive statistics of PA level among women in Selangor. The result shows that 74.1% (N=289) of women were at low level of PA participation. It was then followed by a moderate PA participation from 21.8% (N=85) of the respondents. Only 4.1% (16) of the women were at high level of PA participation. This may be due to women tend to focus more on natural characteristic as a family caretaker and hence they tend to allocate more time for home activity than leisure time physical activity (Wicker et al., 2009).

Table 2: Levels of PA participation

Levels of Physical Activity	Frequency	Percentage (%)
Low	289	74.1
Moderate	85	21.8
High	16	4.1
Total	390	100.0

Table 3 shows the level of PA participation among women in Selangor with regards to various demographic profiles. Firstly, single women participated the highest in PA (M= 608.94, SD= 1176.76). It was followed by married women (M= 555.75, SD= 1041.80) and divorced women (M= 135.00, SD= 190.92).

Secondly, for occupation items, home makers show the highest in PA participation (M= 886.76, SD= 1870.70). It was followed by self-employed women (M= 716.14, SD= 1131.35), white-collar women (M= 686.84, SD= 1278.76) and students (M= 607.70, SD= 1130.25). The second lowest in PA participation was professional women (M= 491.42, SD= 1020.53) and the lowest was unemployed women (M= 314.38, SD= 393.91).

Thirdly, for academic qualification items, school leavers seemed to participate in PA most frequently (M= 1079.09, SD= 1991.35). It was followed by women with certificate qualification (M= 887.64, SD= 1593.04), degree holders and above (M= 520.22, SD= 965.45) and diploma holders (M= 495.67, SD= 837.66).

Lastly, for BMI items, women with extra body weight participated in PA most frequently (M= 4930.69, SD= 2075.98). It was followed by women with normal weight (M= 1262.39, SD= 665.46) and women with less body weight (M= 154.51, SD= 154.92).

Table 3: PA Participation with Regards to Marital Status, Occupation, Academic Qualification and BMI

Demographic Profile		N	Mean	Std. Deviation
Marital Status	Single	281	608.94	1176.76
	Married	107	555.75	1041.80
	Divorced	2	135.00	190.92
	Total	390	591.92	1137.65
Occupation	Professional	107	491.42	1020.53
	White-collar	19	686.84	1278.76
	Self-employed	22	716.14	1131.35
	Unemployed	8	314.38	393.91
	Homemaker	17	886.76	1870.70
	Student	217	607.70	1130.25
	Total	390	591.92	1137.65
Academic Qualification	School leavers	34	1079.09	1991.35
	Certificate	28	887.64	1593.04
	Diploma	54	495.67	837.66
	Degree & above	274	520.22	965.45
	Total	390	591.92	1137.65
BMI	Less weight	289	154.51	154.92
	Normal	85	1262.39	665.46
	Extra weight	16	4930.69	2075.98
	Total	390	591.92	1137.65

Mean indicator: <599=Low, 600-2999=Moderate, 3000>=High.

Table 4 shows result of post-hoc multiple comparison test conducted to identify any significant differences of PA participation within each group based on demographic profile, namely marital status, occupation, academic qualification and BMI.

First, for marital status items, post-hoc multiple comparison test revealed that no marital status was significantly different from one to another. Single women was not significantly higher in PA participation (M= 608.94) than married women (M= 555.75) and divorced women (M= 135.00). This may be due to women tend to take care of their health and body more carefully regardless any other factors (Bauman, Reis, Sallis, Wells, Loos, Martin, 2012). This is different from earlier study that found single women are more likely to be physically active than married women (Beverly et al., 2010) and divorced women (Dlugonski et al., 2013; Wang et al., 2011).

Second, for occupation items, post-hoc multiple comparison test revealed that no occupation was significantly different from one to another. Home makers participation in PA showed not significantly higher (M= 886.76) than women of self-employed (M= 716.14), white-collars (M= 686.84) and students (M= 607.70). This is probably due to working women face rapid changes to the labour force, such as advances in technology and overtime hours have decreased physical activity behaviours and increase sedentariness (Kirk et al., 2011). The finding of this study supported the study done by Cheah et al. (2014) among Malaysians, which identified that job characteristics are significantly associated with participation in physical activity.

Third, for academic qualification items, post-hoc multiple comparison test revealed only one academic qualification was significantly different from another. School leavers participation in PA (M= 1079.09, SD= 1991.35) showed significantly higher than degree holder and above (M= 520.22), and diploma holders (M= 495.67, SD= 837.66). This may be due to the types of occupation, in which school leavers work at less-technology oriented department, hence, they tend to have increased physical activity behaviours compared to educated women whom work generally at desk (Kirk et al., 2011). The finding of this study is contrasted with previous study stated that education are significantly associated with participation in physical activity, in which well-educated women are less likely to be physically active than others (Cheah et al., 2014).

Fourth, for BMI items, post-hoc multiple comparison test revealed all types of BMI was significantly different from another. Women with extra body weight (M= 4930.69, SD= 2075.99) showed significantly higher in PA participation than women with normal weight (M= 1262.39, SD= 665.46), and women with less weight (M= 4154.51, SD= 154.92). This is probably due to women with extra body weight concerned more on their current health status, appearance, what friends think about weight, body mass index, thus, they may be classified into action stage based on The Trans Theoretical Model (TTM) (Hawkins et al., 2001). This is contradicting with most studies done in local and abroad that people who were inactive were also more likely among obese (Kirk et al., 2011).

Table 4: Post Hoc Tests of Multiple Comparison of PA Participation with Regards to Marital Status, Occupation, Academic Qualification and BMI

Dependent Variable: Physical Activity LSD					
	(I) Demographic Profile	(J) Demographic Profile	Mean Difference (I-J)	Std. Error	Sig
Marital Status	Single	Married	53.20	129.49	.68
		Divorced	473.94	808.86	.55
Occupation	Professional	White-collar	-195.42	284.00	.49
		Self-employed	-224.72	267.05	.40
		Unemployed	177.05	418.13	.67
		Homemaker	-395.34	297.85	.18
		Student	-116.28	134.76	.38
Academic Qualification	School leavers	Certificate	191.45	287.83	.50
		Diploma	583.42*	246.93	.01
		Degree & above	558.87*	205.08	.00
BMI	Less weight	Normal	-1107.88*	65.41	.00
		Extra weight	-4776.18*	136.14	.00

Mean indicator: <599=Low, 600-2999=Moderate, 3000>=High.

CONCLUSION AND SUGGESTION

In short, most women in Selangor were at low level of physical activity. However, the result was diverse based on demographic variables. In terms of marital status, single women were categorized at moderate level of PA, different from married and divorced women who were categorized at low level in PA.

In terms of occupation, home maker, self-employed, white-collars and students have participated moderately in physical activity. However, professionals and unemployed women have participated at low level in PA.

In addition, with regards to academic qualification, school leavers and women with certificate were doing exercise moderately. Yet, women with degree holder, and above as well as diploma holders were rarely exercising.

Lastly, women with extra body weight were found to participate at high level of PA. Women with normal body weight have participated in PA moderately, while women with less body weight have participated in PA infrequently.

Besides, findings proved that academic qualification and BMI were associated with PA participation. However, marital status and occupation did not associate with PA participation.

Based on the findings, this study recommended public health authorities and policy makers to develop suitable activities based on women's demographic profile. Exercise program should also be organized among unemployed women and it should be convenient with their financial capability. In addition, activities for women who worked professionally should match their leisure time and availability of PA. Besides, women with diploma, degree and above are prevalent to work as professional; consequently, exercise program should also apt with their leisure time. Other than that, women regardless of BMI should constantly be encouraged to be active in keeping an ideal body weight to prevent them from getting any other non-communicable diseases.

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