ORIGINAL ARTICLE

PHYSICAL INACTIVITY AMONG ADULTS IN A RURAL VILLAGE OF KUALA TERENGGANU: KNOWLEDGE, ATTITUDE, SOCIAL SUPPORT AND IT'S ASSOCIATED FACTORS

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ABSTRACT

This study aimed to determine the prevalence of physical inactivity and factors associated with it among adults in a rural village in Kuala Terengganu. A cross-sectional study was conducted among adults age 18 years and above. Data were collected via face to face interview using a set of structured questionnaire. Those who were terminally ill, mentally or physically disabled were excluded. A total of 211 adults were studied. The prevalence of physical inactivity was 46.0%. Being female, not working, having negative attitude towards physical activity and without good environmental support were found to be significantly associated with being physically inactive. Multiple factors of individual characteristic and environmental factor determine one's physical inactivity.

Keywords: *Physical inactivity, factors, determinants, knowledge, attitude, social support*

INTRODUCTION

According to World Health Organization (WHO), physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure[1]. It is performed for various reasons including strengthening muscles and the cardiovascular system, honing athletic skills, weight loss or maintenance, as well as for the purpose of enjoyment. Regular physical activity in childhood and adolescence improves strength and endurance, helps building healthy bones and muscles, helps controlling weight, reduces anxiety and stress, increases self-esteem, and may improve blood pressure and cholesterol levels.

People are being physically inactive partly due to inadequate engagement in physical activity during leisure time or perhaps due to increase in sedentary behaviour during working or domestic activities. Due to hectic and busy jobschedule in this modern world, people tend to have less time to perform physical activities such as exercising or practicising any sports. Beside time constrains, lack of facilities is also one of the factor which leads to physical inactivity. The environment may be one of the contributing factors. Although it can be assumed that the situation is the same everywhere,people in urban areas may differ from those living in rural areas.

Being physically inactive can have impact to our body systems especially cardiovascular system. Those who are physically inactive are said to be more prone to develop chronic metabolic illnesses[2]. Based on a study conducted by the Institute of Public Health, an institution under the Ministry of Health, about 15.2% (2.6 million) of adults Malaysian aged 18 years and above have diabetes. 32.7% (5.8 million) have hypertension and 35.1% (6.2 million) have hypercholesterolemia[3,4].

Physical inactivity is becoming a serious health concern. Despite all that has been said about it, physical inactivity is still an important public health problem in the 21st century. The objective of this study was to determine the prevalence of physical inactivity and factors associated with it among residents of a rural village in Kuala Terengganu, as well as to describe their knowledge, attitude and social support.

METHOD

A cross-sectional community based study was conducted involving adults aged 18 to 65 years old, living in a rural village in the district of Kuala Terengganu, Terengganu from April until May 2014. The sampling frame was representative adults from a total of 300 households. The houses where there were no occupants were excluded and the immediate house next to it was taken. The houses that have been chosen were tagged to ensure no repetition of the visit by enumerators. Respondents who have communication difficulty, terminally ill, mentally or physically disabled were also excluded. Instead another adult in the same household were chosen. The data were collected using a set of structured questionnaire via face to face interview. Specifically, the levels of physical inactivity was assessed based on how many days, minutes or hours they have done walking, vigorous and moderate activity. The independent variables studied were socio-demographic characteristics, knowledge level

regarding physical activity, attitude towards physical activity, environmental factors and co-morbidity. Data were analysed using SPSS software version 16.0.Descriptive statistics were presented using frequency and relative frequency. Meanwhile, association between independent variables and physical inactivity status were analysed using Chi square or Fisher's Exact test. The level of significance was set at 0.05.Ethical approval obtained from the UniSZA Human Research Ethics Committee.

RESULTS AND DISCUSSION

A total of 211 respondents were recruited with 124 (58.8%) female and 87 (41.2%) male. Majority of the respondents were less than 46 years (68.7%) old and were married (69.2%). Almost one third (30.8%) obtained tertiary education and almost half (47.9%) attained up to secondary school level. However, almost half were not working (46.9%) and almost one third were self-employed. More than half (56.9%) fell into the less than RM1000 monthly household income and almost one third (32.2%) had a household income of between RM 1001 to three thousand.

More than one third (36.7%) of the respondents fell into the ideal body weight category. Almost an equal proportion (34.6%) of the respondents fell into the overweight category and about 20.9% were categorised as obese. The smallest proportion fell in the category of underweight (7.6%). The prevalence of general obesity 25.7% based on BMI and central obesity was 27.1% based on waist circumference.

Prevalence of Physical Inactivity

Out of 211 respondents, almost half (46%) were physically inactive.

Knowledge on Physical Activity

Majority of the respondents were aware that by doing physical activity, it can lead to a healthy life (95.7%). Most of them knew that physical activity can be done either in the house (91.9%), or outside of the house (93.8%) and it can be done at any time of the day (90.5%). A large number of the respondents agreed that walking (92.9%), gardening (93.4%), doing household chores (96.7%) and washing cars (89.1%) are parts of physical activity. They also knew that watching television (78.7%) and reading (65.4%) were not physical activity. But, there were still a one third of them (34.6%) answered it wrongly whereby they thought that reading was a part of physical activity.

Table 1: Knowledge on physical inactivity

No.	Questions	Correct Answer	Answers of Respondents N = 211	
			Correct N (%)	Incorrect N (%)
18	Physical activity can lead to a healthy life?	Yes	95.7	4.3
19	Physical activity can be done in the house?	Yes	91.9	8.1
20	Physical activity can be done outside of the house?	Yes	93.8	6.2
21	Physical activity can be done anytime of the day?	Yes	90.5	9.5
22	Walking is a type of physical activity?	Yes	92.9	7.1
23	Gardening is a type of physical activity?	Yes	93.4	6.6
24	Watching television is a type of physical activity?	No	78.7	21.3
25	Doing household chores is a type of physical activity?	Yes	96.7	3.3
26	Reading is a type of physical activity?	No	65.4	34.6
27	Washing cars is a type of physical activity?	Yes	89.1	10.9

Attitude towards Physical Activity

More than half of the respondents (54%) agreed that they had performed adequate physical activity. Interestingly, about 76.8% of the respondents also showed the passion to do it. Meanwhile, 85.8%agreed that they were happy to do physical activity but less than two third (58.3%) were willing to walk for a certain distance (example given was from the community centre to the primary school within a distance of 100 meters). Whereas, 46.9% of the respondents were willing to participate in any physical activity conducted in the community.

Table 2: Attitude towards physical activity

No.	Questions	Answers of Respondents N = 211	
		Agree N (%)	Disagree N (%)
28	The physical activity that I have done is adequate	54	46
39	I am very passionate while doing the physical activity	76.8	23.3
30	I am very happy while doing the physical activity	85.8	14.2
31	I am willing to walk from the community centre to Kg. Undang primary school	58.3	41.7
32	I am willing to join any physical activity that was being conducted in Kg. Undang	65.9	34.1

Social Support and Physical Activity

A huge percentage of the respondents (78.2%) agreed that their family supported them in doing physical activity. Only 67.8% did it together with their family whereas and 56.4% did the physical activity with their friends. A large number of them (70.6%) disagreed that their family cannot afford to provide sports equipment. More than half (55%) agreed that their family spend their leisure time with physical activity.

Table 3: Social support of physical activity

No.	Questions	Answers of Respondents N = 211	
		Agree N (%)	Disagree N (%)
33	My family encouraged me to do physical activity	78.2	21.8
34	I do physical activity with my family	67.8	32.2
35	I do physical activity with my friends	56.4	43.6
36	My family cannot afford to provide sports equipment	29.4	70.6
37	My family spends their leisure times with physical activity	67.3	32.7

Factors Associated With Physical Inactivity

As shown in Table 4 and 5 below, being female significantly associated with physically inactivity. Other significant unadjusted factors were negative attitude, living in unfavourable environments and being unemployed.

Based on our study, there was a statistically significant association between gender and physical inactivity. Higher proportion of having physically inactive was found among female (58.1%) compared to male (28.7%).

Table 4: Association between socio-demographic characteristics and physical activity (n=211)

Title	Physically Active		Physically Inactive		Chi Square value	P value
	Frequencies	%	Frequencies	%		
Sex					17.707	0.0001
Male	62	71.3	25	28.7		
Female	52	41.9	72	58.1		
Age (years)					0.378	0.538
Young adult	61	52.1	56	47.9		
Older adult	53	56.4	41	43.6		
Marital Status					0.001	0.972
Married	79	54.1	67	45.9		
Single	35	53.8	30	46.2		
Education level					0.324	0.569
High	88	53.0	78	47.0		
Low	26	57.8	19	42.2		
Occupation					5.520	0.019
Working	69	61.6	43	38.4		
Non-working	45	45.5	54	54.5		
Income (RM)					0.129	0.719
High	19	51.4	18	48.6		
Low	95	54.6	79	45.4		

Table 5: Association between levels of knowledge, attitude, environmental, social support and physical inactivity status (n=211)

Title	Physically Active		Physically Inactive		Chi Square Value	P value
	Frequencies	%	Frequencies	%		
Knowledge					0.311	0.577
High	43	56.6	33	43.4		
Low	71	52.6	64	47.4		
Attitude					-	*0.729
Positive	5	62.5	3	37.5		
Negative	109	53.7	94	46.3		
Social Support					1.066	0.302
Good	46	50	46	50		
Poor	68	57.1	51	42.9		
Environmental Factors					4.128	0.042
Supportive	47	63.5	27	36.5		
Not Supportive	67	48.9	70	51.1		
Comorbidity					0.098	0.754
Healthy	33	52.4	30	47.6		
Unhealthy	81	54.7	67	45.3		

**Fisher exact test p value is 0.729.*

There was a statistically significant different between respondents who were physically active and physically inactive based on their attitude. Among physically inactive respondents, a higher proportion (46.3%) had negative attitude compared to physically active group where a higher positive attitude were noted (62.5%).

There was also a statistically significant different between respondents who were physically active and physically inactive based on the surrounding environment. Among those who were physically inactive, a higher proportion (51.1%) had non-supportive environment compared to physically active group whereby more people had supportive environment (63.5%).

DISCUSSION

The prevalence of physically inactive in the rural village in Kuala Terengganu was 54.0 percent. This finding was found to be consistent with a local result which showed that physical inactivity among their female and male subjects were 54% and 46% respectively[5]. Nonetheless, a world health study reported Malaysia was highest in the prevalence of physical inactivity among adults in the western pacific region. Unfortunately, the numbers have put Malaysia in the list of the top ten most physically inactive countries in the region[6].

Our study correlates with a research that was conducted in Victoria, Australia which concluded that women were less physically active than men, at percentages of 41.9% and 51.1% respectively in all age groups[8]. Most women including housewives experience more than one difficulty to be physically active. Women's multiple roles were the primary cause of some of these barriers as women may put effort and time on their families' and other needs before their own.

Working status was associated with physical activity but not attitude in the present study. A national study in Scotland revealed that attitudes towards physical activity were generally positive among the study population, with good levels of awareness of the physical and mental benefits of physical activity[7]. Hence, it relates to the fact that attitude helps in improving physical activity status among population but it depends on their own initiatives in overcoming their piles of work and daily busy schedule. Limitation of time was reported to contribute to 64.6% of obstacles to be physically inactive based on study performed in Brazil in 2012[8].

Regarding other barriers to physical activity, in addition to time constraint, lack of facilities contributed to 77.7% of the barriers[8]. The reasons behind these are possibly lack of support by the local government.

CONCLUSIONS AND RECOMMENDATION

Physical inactivity is a problem among the villagers in this rural village in Kuala Terengganu. The overall prevalence of physically inactive among the rural villagers at Kuala Terengganu was 46%. The identified factors behind physical inactivity among respondents were being female, living in unfavourable environments and being unemployed.

More health campaign and education regarding physical activity should be held in order to improve the level of physical activity in rural population in Kuala Terengganu. The proposed target individuals are the adult females, and being non-employed. A long term intervention to create a favorable environment is recommended such the upgrading the function of existing facilities according to age and gender.

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REFERENCES

1 WHO. News Release, Country profiles on non communicable disease trends in 193 countries, 14 September 2011. Available from:http://www.who.int/mediacentre/news/releases/2011/NCDs_profiles_20110914/en/index.html (accessed 24 April 2012).

2 WHO. Preventing Chronic Disease - A Vital Investment. WHO and The Public Health Agency of Canada. Geneva: WHO, 2005.

3 Tahir A and Noor Aini, Malaysian National Health &Morbidity Survey 2011 Kuala Lumpur: Institute of Public Health 2012

4 Ministry of Health Malaysia. National Health and Morbidity Survey, 2011. Retrieved from http://www.moh.gov.my/index.php/file_manager/dl_item/624746305a584e305833426b5a69394f51305176546b684e553138794d44457858305a42513152665530684652565175634752 6d

5 Norlena Salamudin and Mohd Taib Harun(2013) Physical Activity Index Among Malaysian Youth, *Asian Social Science* vol 9(12)

6 Regina Gothold, Tomoko Ono, Kathleen L Strong, Somnath Chatterji & Alfredo Morabia (2008), Worldwide variability in physical inactivity: A 51 country survey, American Journal of Preventive Medicine vol 34(6): 486-494.

7 Scottish Executive Health Department Research Governance framework for health and community care. 2006http://www.cso.scot.nhs.uk/wp-content/uploads/Publications/ResGov/Framework/RGFEdTwo.pdf

8 Sebastião G,Emerson S,Camila B. P.Priscila, M. N.Américo, V. N, Lilian, T. B. G, Eduardo K et al. Physical Inactivity and Related Barriers: A Study in a Community Dwelling of Older Brazilians. Journal of Aging Research, Physical Inactivity and Related Barriers: A Study in a Community Dwelling of Older Brazilians, 2012; 1-8. Retrieved from http://dx.doi.org/10.1155/2012/685190