ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) ON DAILY STEPS AMONG UNIVERSITY EMPLOYEES

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ABSTRACT

Walking is the simplest form of physical activity. 10,000 steps daily is associated with significant improvement in health outcomes. However, the extent of awareness regarding walking and whether or not 10,000 steps daily are being exercised by many are still unclear. The aim of this study is to investigate the level of knowledge, attitude and practice (KAP) on walking among university employees. A cross sectional study was conducted in Universiti Kebangsaan Malaysia (Kuala Lumpur Campus) involving 127 academic and administrative employees. All participants wore a pedometer for three continuous working days to determine daily steps and completed a validated KAP and sociodemographic questionnaires. Results showed that participants recorded an overall mean (± SD) of 7506 ± 3764 steps/day. According to pedometer thresholds proposed by Tudor-Locke and Bassett, 29% males and 22% females were classified as 'sedentary' (<5000 steps/day), while 24% males and 13% females were classified as 'active' (>10,000 steps/day). The mean ± SD for knowledge, attitude and practice scores were 10.9 ± 2.0 (84%), 33.0 ± 2.4 (66%) and 12.90 ± 3.8 (72%) respectively. Academic employees had higher knowledge scores on walking activity compared to administrative employees ($p<0.05$). Females had better attitude scores compared to males ($p<0.05$). The scores for practice in employees aged 29-35 years were higher than in those aged 51-58 years ($p<0.05$). Daily steps correlated positively with practice scores. Age group, job types and modes of transportation were significant factors in predicting daily steps ($p<0.05$). In conclusion, a majority of the university employees (33%) in this study were categorized as 'low active' despite being aware of the recommended 10,000 steps/day. Interventions aimed to increase walking activity are perhaps useful among university employee.

***Keywords**: Walking, pedometer, knowledge, attitude, practice*

INTRODUCTION

Walking is the simplest form of physical activity where everyone is able to do it every day. Physical activity is defined as any bodily movement produced by skeletal muscles that result in energy expenditure[1]. Physical activity has been proved to reduce the risks of all-cause mortality[2], prevent obesity[3] and diabetes[4] and also decrease the risk of cardiovascular disease[5]. A high level of physical activity could reduce the risk of obesity in the part of abdomen[6]. According to previous study risks of colon cancer and breast cancer were also reduced by the increasing of physical activity[7].

Of all types of physical activity, walking stands out as the most popular form of leisure time exercise[8]. This is because walking activity is accessible to all, requires little skill and has a low risk of injury. Walking also lies in the fact that it can be performed at a variety of speeds and intensities, in a group or alone and without the need for any training, special equipment or clothing. It can also be achieved in an individuals' own locality and time[9]. The main reason that walking remains the most popular physical activity because it is also a functional part of activities of daily living[10].

In recent years, step indices based on pedometer-determined physical activity are being supported either formally or more informally[11]. A recommendation to accumulate 10,000 steps throughout the day is gaining popularity with the media[12] and in practice[13]. A value of 10,000 steps /day is an amount of physical activity that is associated with indicators of good health. It is also equivalent to an energy expenditure of 300-400 calorie/day approximately but it is still depending on an individual's walking speed and body size[11]. Individuals who achieve at least this amount of activity have less body fat and lower blood pressure[14]. This level of steps/day is seemed to be a reasonable estimate of daily activity for apparently healthy adults[15].

Public health guidelines recommend at least accumulated 30 minutes of moderate-intensity physical activity such as brisk walking on most or all days of the week[16]. Or in another way, at least 150 minutes of moderate-intensity physical activity in the week or perform high-intensity physical activity for 75 minutes in the week to achieve the benefits of health[17]. At the same time, combination of moderate and high intensity of

physical activity alternatively brings a higher chance for an individual to achieve a healthy activity physical[18]. Preliminary evidence suggests that some groups, including older adults and those living with chronic diseases may not be able to achieve 10,000 steps /day. However, this universal goal is probably too low for children[11].

To get health benefits and to encourage an active lifestyle, several recommendations have been published. The first recommendation was to achieve a pedometer-determined activity level of 10,000 steps /day. Based on currently available evidence, a preliminary index[11] proposed by Tudor-Locke & Bassett (2004) is used to classify pedometer-determined physical activity in healthy adults: (i) <5,000 steps/day (sedentary lifestyle); (ii) 5,000-7,499 steps/day (low active); (iii) 7,500-9,999 steps/day (somewhat active); (iv) 10,000-12,499 steps/day (active); and (v) ≥12500 (highly active).

Pedometers provide an objective measure of physical activity that is feasible in large, population-based study[19]. Pedometers are generally considered the more practical alternative for individual and population as they are much simpler in design and without the need of extra software or expertise to access and interpret the data[20]. Pedometers are small (50 X 38 X 14mm), light (21g), easy to use, cheap and user-friendly[15]. Reliability and validity of pedometer Yamaz Digi-Walker SW200 on estimating physical activity have been proved and showed a high interclass reliability coefficient, 0.84 ($p<0.01$)[21]. However, pedometers do not record velocity of upper body movement and less sensitive towards certain activities such as cycling and weightlifting[22].

In this study, knowledge, attitude and practice (KAP) on daily steps are focused. This is the first study of KAP on daily steps. The main purpose of conducting KAP on daily steps is to explore the understanding of the population on walking, how do they react and how far do they practice walking in their daily lives. Knowledge is necessary for behaviour change, thus, people must have the knowledge both about the risk factors and preventive behaviours[23] on walking. Attitude refers to the reaction of an individual towards surrounding which is gained from own experience in life[24] Practice is the action performed to prevent something bad to happen or achieve goals that is set[25].

Therefore, since the study on KAP on daily steps is inadequate in Malaysia, thus this study aims to explore the level of KAP on daily steps among university employees. Besides, the relationship between level of KAP on daily steps and their status of daily steps among university employees is determined too. Proportions of participants meeting the indices provided by Tudor-Locke and Bassett (2004) were also reported.

MATERIALS AND METHODS

A cross sectional study was conducted among university employees in Universiti Kebangsaan Malaysia Kampus Kuala Lumpur (UKM KKL) after the approval from Ethics Committee of Medical Research, UKM. The total number of participants involved was 127 university employees through a universal sampling method. A simple explanation about the methods of data collection was given to each of the participants who gave their informed consent in this study. All the participants should not have physical and mental inability and employees who pregnant were excluded from this study.

Data was collected by using pedometer (model Yamax Digi-Walker SW200), self-reported log book, socio-demographic and KAP questionnaires. All the participants were required to wear the pedometer for three continuous working days, only remove the pedometer while sleeping, bathing and swimming. In those three days, subjects were asked to jot down the time of start wearing pedometer in the early morning and the time of taking it off before sleeping at night. The purpose of the log book was to ensure all the subjects remember to wear the pedometer for three days continuously. After three days, the pedometer and log book were collected back and a validated KAP and socio-demographic questionnaires were filled by them. Data of daily steps were calculated by the pedometer cumulatively, thus the total will be divided by three to get the mean of daily steps.

Questionnaires of socio-demographic included background of participants such as age, gender, religion, marital status, level of education, types of occupation and mode of transportation to working place. Whereas in KAP questionnaires consists of three parts, 1) knowledge, 2) attitude and 3) practice. There were 13 questions about pedometer, advantages, complications, guidelines and recommendations on walking in knowledge part. 10 attitude questions were related to the desires of the participants to maintain the walking habit. Practice part had 14 questions to explore how well the participants carry out the walking activity in their daily lives. Reliability and validity of the KAP questionnaires were achieved. Internal consistency of Cronbach's alpha was used to determine the reliability of the KAP questionnaires

where the results showed that 0.74 (knowledge), 0.77 (attitude) and 0.74 (practice). For validity, content validity was chosen where the KAP questionnaires were accessed and amended by expertise or professional in this field. A pilot study was conducted before the data was collected.

Categorical responses (true, false and don't know) were used for knowledge, 5 likert scales (strongly agree, agree, neutral, disagree, strongly disagree) for attitude and 3 likert scales (never, seldom, always) for practice question. The total score was categorized as good, neutral and poor based on mean of total score. All the data was analysed using Statistical Package for Social Sciences (SPSS) version 19.0. In this study, descriptive test, independent t test, one-way between groups ANOVA, multiple regression and Chi-square (χ^2) test of contingencies were used to analyse all the data.

RESULTS

The questionnaire was distributed to 176 subjects, however only 127 subject response. The response rate was 72%. Descriptive analysis of socio-demographic data was shown in Table 1. There were 82 female respondents and 45 male respondents and majority of them were Malays (96.8%). Their age ranged 22 to 58 years old. More than half of the participants had achieved higher

educational level (70.1%) and came to work by their own cars (63.8%). Employees were further divided into 2 groups which were academic employees (lecturers, tutors) and administrative employees (lab technologists, security guards) where there were 88 administrative and 39 academic employees were involved in this study.

Participants reported taking (mean ± standard deviation) 7,506 ± 3,674 steps/day. The maximum mean step count reported was 29,905 steps /day and the minimum was 392 steps /day. Mean daily steps/day varied significantly between academic and administrative employees and by mode of transportation (Table 2). Administrative employees accumulated more steps/day than academic employees ($p<0.05$). Employees who came to work by using public transportation had significantly more steps/day than those who came to work by their own car ($p<0.05$).

At the same time, Table 2 also shows that there were no significant differences of mean daily steps between male and female employees ($p=0.849$), groups of age ($p=0.140$), religions ($p=0.968$), marital status ($p=0.155$) and by educational level ($p=0.400$). As overall, majority (32.3%) of the employees in UKM KKL were low active where 5,000-7,499 steps/day was achieved among the participants (Figure 1).

Results showed that the mean (standard deviation) of knowledge score on walking was 10.86 (2.03). Majority of the participants had high knowledge scores (78%).For the general question, 100% of the employees knew that walking is classified as a type of physical activity. The question with the highest proportion of wrong answer (13.4%) was about pedometer. Regarding the guidelines of physical activity to achieve 10,000 steps /day, 20.5% of the employees did not know about it.

There were significant differences in scores of knowledge on walking between educational level ($p<0.05$), types of occupation ($p<0.001$) and mode of transportation ($p<0.05$) as shown in Table 3.

Knowledge score of employees with higher educational level (11.31 ± 1.51) was significantly higher than that of employees with educational level of SPM (10.38 ± 2.18). Academic employees (11.69 ± 1.24) had higher knowledge score compared to administrative employees (10.59 ± 2.02). Knowledge score of employees who drove to work (11.11 ± 1.73) was significantly higher than that of employees who took public transportation to work (9.85 ± 2.15). However, there were no significant differences of knowledge scores on walking between male and female employees ($p=0.357$), age group ($p=0.129$), religions ($p=0.261$) and marital status ($p=0.987$).

Table 1: ***Socio-demographic data of respondents (n=127)***

Variables	Number (n)	Percentage (%)
Gender	45	35.4
Male	82	64.6
Female		
Age	36	28.3
22-28	43	33.9
29-35	17	13.4
36-42	16	12.6
43-50	15	11.8
51-58		
Race		
Malay	123	96.8
Chinese	2	1.6
Indian	2	1.6
Marital Status		
Singele	51	40.2
Married	76	59.8
Educational Level		
SPM	38	29.9
> SPM	89	70.1
Types of Occupation		
Lecturer	30	23.6
Tutor	2	1.6
Science Officer	6	4.7
Lab Technologist	29	22.8
Clinic Assistant	10	7.9
Hostel Employees	3	2.4
Administration	28	22.1
General Employee	6	4.7
General Assistant	4	3.1
Security	5	3.9
Dental Officer	2	1.6
Research Officer	2	1.6
Transportation		
Car	81	63.8
Motorcycle	31	24.4
Bus	3	2.4
LRT	10	7.8
Walk	2	1.6

Table 2: ***Comparison of mean daily steps in socio-demographic data***

Variable	Steps / Day		
	n	Mean ± Standard Deviation	P
Gender			0.849
Male	43	7133 ± 3124 [a]	
Female	80	7029 ± 2311	
Age			0.140
22-28	36	8017 ±3071 [b]	
29-35	43	7371 ±2668	
36-42	17	7651 ± 3653	
43-50	16	6866 ± 2729	
51-58	14	5563 ± 3666	
Race			0.968
Malay	119	7075 ± 2654 [b]	
Chinese	2	6619 ± 594	
Indian	2	6936 ± 777	
			0.155
Marital Status	51	7805 ± 2823 [a]	
Single	75	7005 ± 3241	
Married			
Educational Level			0.400
SPM	35	7280 ± 2572 [b]	
> SPM	89	6780 ± 3100	
Types of Occupation			0.018*
Academic	39	6449 ± 2063 [a]	
Administrative	88	7611 ± 3275	
Transportation			0.003*
With Vehicles	110	6954 ± 2494 [b]	
Without Vehicles	11	9273 ± 1629	

* p < 0.05, significant difference, a Independent T test, b ANOVA

Figure 1 : ***Distribution of pedometer-determined physical activity in UKM KKL***

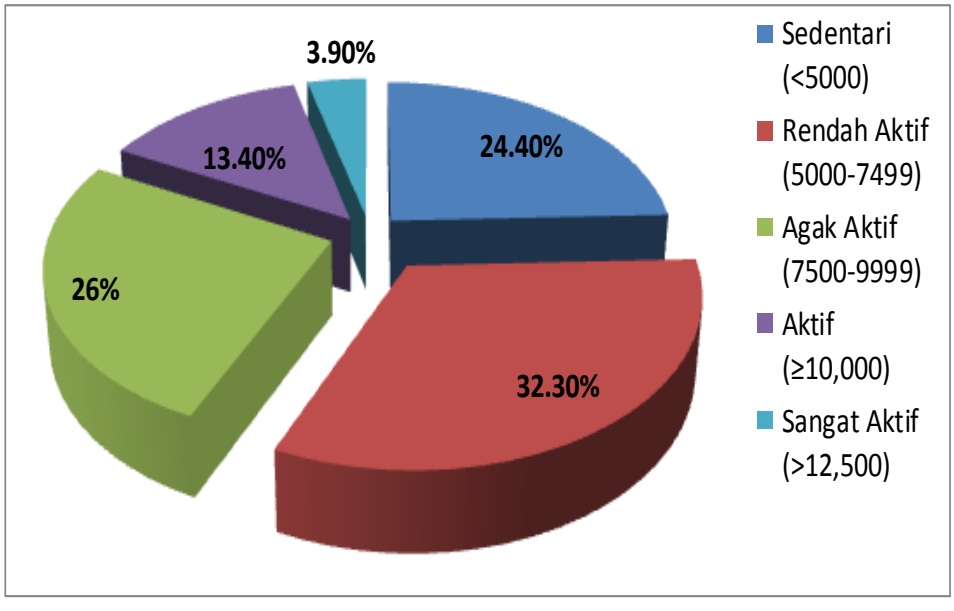

Table 3: ***Mean ± standard deviation of knowledge score on walking among socio-demographic data***

Variables	Number (n)	Percentage (%)	Mean ± Standard Deviation	P
Gender				0.357
Male	44	35.2	10.77 ± 1.82 [a]	
Female	81	64.8	11.09 ± 1.81	
Age				0.129
22-28	35	27.6	11.03 ± 1.93 [b]	
29-35	43	33.9	10.98 ± 1.55	
36-42	17	13.4	10.59 ± 2.48	
43-50	15	11.8	11.93 ± 1.34	
51-58	15	11.8	10.27 ± 1.75	
Race				0.261
Malay	120	96.8	11.03 ± 1.71 [b]	
Chinese	2	1.6	11.50 ± 2.12	
Indian	2	1.6	9.00 ± 5.66	
Marital Status				0.987
Single	50	40.6	11.06 ± 1.74 [a]	
Married	73	59.4	11.05 ± 1.70	
Educational Level				0.021*
SPM	37	30.1	10.38 ± 2.18[a]	
> SPM	86	69.9	11.31 ± 1.51	
Types of Occupation				<0.001**
Academic	39	31.0	11.69 ± 1.24 [a]	
Administrative	88	69.0	10.59 ± 2.02	
Transportation				0.017*
With Vehicles	112	89.6	11.11 ± 1.73 [a]	
Without Vehicles	13	10.4	9.85 ± 2.15	

* $p < 0.05$, significant difference.

a Independent T test

b ANOVA

In the part of attitude on walking, the mean (standard deviation) was 33 (2.38). Most of the employees had neutral scores of attitude (98.4%). The question with highest proportion of positive attitude was 'agree to encourage the nearest to practice walking more often' (55.9%) and 'prepare to have brisk walking for at least 30 minutes every day' (50.4%). Among the negative attitude, 26.8% of the employees felt that 'occupation is an obstruction for them to achieve 10,000 steps /day (8th item).

Attitude score on walking also varied significantly among female employees (33.34 ± 2.11) and male employees (32.38 ± 2.72) as shown in Table 4. Results showed that there were no significant differences of attitude scores on walking between other socio-demographic factors such as age group (p=0.852), religions (p=0.055), marital status (p=0.650), educational level (p=0.087), types of occupation (p=0.197) and by mode of transportation (p=0.220).

Table 4: ***Mean ± standard deviation of attitude score on walking among socio-demographic data***

Variables	Number (n)	Percentage (%)	Mean ± Standard Deviation	P
Gender				0.043*
Male	45	35.4	32.38 ± 2.72 [a]	
Female	82	64.6	33.34 ± 2.11	
Age				0.825
22-28	36	28.3	32.89 ± 2.15 [b]	
29-35	43	33.9	33.19 ± 2.48	
36-42	17	13.4	32.88 ± 2.52	
43-50	16	12.6	33.38 ± 2.22	
51-58	15	11.8	32.47 ± 2.77	
Race				0.055
Malay	123	96.8	33.02 ± 2.34 [b]	
Chinese	2	1.6	35.00 ± 2.83	
Indian	2	1.6	29.50 ± 2.12	
Marital Status				0.650
Single	51	40.2	32.88 ± 2.33 [a]	
Married	76	59.8	33.08 ± 2.42	
Educational Level				0.087
SPM	83	29.9	32.45 ± 2.39 [a]	
> SPM	89	70.1	33.24 ± 2.35	
Types of Occupation				0.197
Academic	39	30.7	33.41 ± 2.48 [a]	
Administrative	88	69.3	32.82 ± 2.32	
Transportation				0.220
With Vehicles	114	89.8	33.09 ± 2.42 [a]	
Without Vehicles	13	10.2	32.23 ± 1.92	

* $p < 0.05$, significant difference.

a Independent T test

b ANOVA

Practice scores had a mean (standard deviation) of 12.9 (3.78) on walking. Majority of the employees had fair practice scores (91.3%). In present study, practice on walking among the employees was very poor. Only 3.2% exercised by practicing brisk walking for at least 30 minutes for five to seven times per week. 36.2% never spared the time to walk as a type of exercise or recreation for more than 2 times per week.

Table 5 showed that attitude scores on walking differed significantly between age group ($p<0.05$), types of occupation ($p<0.001$) and mode of transportation ($p<0.05$). The most active group were the 29-35-year-old (14.21 ± 3.65) who reported significantly higher practice scores than the 51-58-year-old group (10.73 ± 4.28). Administrative employees (13.73 ± 3.55) had higher practice scores on walking than academic employees (11.03 ± 3.62). Employees who drove to work (12.62 ± 3.71) also had significantly lower practice scores than employees who took public transportation to work (15.31 ± 3.61). There was also no significant differences of practice scores on walking between male and female employees ($p=0.860$), religions ($p=0.341$), marital status (0.932) and educational level ($p=0.185$).

Table 5: ***Mean ± standard deviation of attitude score on walking among socio-demographic data***

Variables	Number (n)	Percentage (%)	Mean ± Standard Deviation	P
Gender				0.860
Male	45	35.4	12.98 ± 3.45 [a]	
Female	82	64.6	12.85 ± 3.96	
Age				0.024*
22-28	36	28.3	12.75 ± 3.10 [b]	
29-35	43	33.9	14.21 ± 3.65	
36-42	17	13.4	12.47 ± 4.11	
43-50	16	12.6	12.19 ± 3.78	
51-58	15	11.8	10.73 ± 4.28	
Race				0.341
Malay	123	96.8	12.96 ± 3.76 [b]	
Chinese	2	1.6	13.00 ± 4.24	
Indian	2	1.6	9.00 ± 4.24	
Marital Status				0.932
Single	51	40.2	12.86 ± 3.51 [a]	
Married	76	59.8	12.92 ± 3.96	
Educational Level				0.185
SPM	83	29.9	13.58 ± 4.02 [a]	
> SPM	89	70.1	12.61 ± 3.65	
Types of Occupation				<0.001**
Academic	39	30.7	11.03 ± 3.62 [a]	
Administrative	88	69.3	13.73 ± 3.55	
Transportation				0.014*
With Vehicles	114	89.8	12.62 ± 3.71 [a]	
Without Vehicles	13	10.2	15.31 ± 3.61	

* $p < 0.05$, significant difference.

a Independent T test

b ANOVA

Socio-demographic factor of types of occupation has a significant relationship with scores of knowledge ($p<0.05$) and attitude on walking ($p<0.001$) as shown in Table 6 and Table 7. This proved that the combination of these three socio-demographic factors was effective to predict the knowledge and practice scores on walking among university employees. However, Table 7 showed that there was no significant relationship of the combination of those socio-demographic factors with attitude scores in walking ($p>0.05$). Results on Table 8 also showed that combination of socio-demographic factors of age, types of occupation and mode of transportation was significantly effective to predict the mean daily steps among university employees.

Table 6: ***Unstandardised (B) and standardized (β) regression coefficients and correlation squared semi-partial (sr^2) for predictors in knowledge scores***

Variables	B [95% CI]	β	sr^2	P
Constant	11.277 [8.404, 14.149]			
Age	-0.014 [-0.047, 0.019]	-0.072	5.63×10^{-3}	0.407
Types of Occupation	-0.928 [-1.614, -0.241]	-0.238	0.056	0.008*
Transportation	0.922 [-0.116, 1.960]	0.156	0.025	0.081

N = 125. CI = Confidence Interval.

* p<0.05, significant difference.

Table 7: ***Unstandardised (B) and standardized (β) regression coefficients and correlation squared semi-partial (sr^2) for predictors in attitude scores***

Variables	B [95% CI]	β	sr^2	P
Constant	32.889 [28.967, 36.812]			
Age	-0.009 [-0.053, 0.036]	-0.034	1.16×10^{-4}	0.703
Types of Occupation	0.672[-0.746, 2.090]	0.086	7.06×10^{-3}	0.350
Transportation	-0.50 [-1.445, 0.425]	-0.099	9.22×10^{-3}	0.283

N = 127. CI = Confidence Interval.

Table 8: ***Unstandardised (B) and standardized (β) regression coefficients and correlation squared semi-partial (sr^2) for predictors in daily steps***

Variables	B [95% CI]	β	sr^2	P
Constant	10147 [5911, 14384]			
Age	-66 [-115, -18]	-0.238	0.058	0.008 *
Types of Occupation	-940 [-2450, 570]	-0.111	0.013	0.220
Transportation	594 [-416, 1604]	0.106	0.010	0.247

N = 123. CI = Confidence Interval.

* p<0.05, significant difference.

Results showed there was no significant difference between level of knowledge on walking and level of daily steps (p>0.05) but there was a significant relationship between level of practice on walking and the level of daily steps (p<0.05) as shown in Table 9 and Table 10.

Table 9: ***Relationship between level of daily steps and level of knowledge on walking (n=127)***

Category	Level of Daily Steps		N (%)	Fisher's Exact
	Sedentary N (%)	Active N (%)		
Low (skor 0 – 6)	2 (6.5)	2 (2.1)	4 (3.1)	0.25
High (skor 7 – 13)	29 (93.5)	94 (97.9)	123 (96.9)	
Total	31 (100)	96 (100)	127 (100)	

Table 10: Relationship between level of daily steps and level of practice on walking (n=127)

Category	Level of Daily Steps		N (%)	Chi-square χ^2	P
	Sedentary N (%)	Sedentary N (%)			
Poor (skor 0 – 14)	26 (83.9)	56 (58.3)	82 (64.6)	6.68	0.01*
Good (skor 15 – 28)	5 (16.1)	40 (41.7)	45 (35.4)		
Total	31 (100)	96 (100)	127 (100)		

* $p<0.05$, significant difference

DISCUSSIONS

Guidelines of physical activity had been proved to bring benefits in reduction of all-cause mortality[27] and prevention in increasing of body weight[28]. In recent years, supports on walking index of pedometer-determined physical activity are emphasized[26]. A value of 10,000 steps /day is often associated with a healthful level of physical activity[29] and is commonly promoted. This can be seen through the popularity of 10,000 steps daily in media[30] and it is suggested as a living practice[13]. Besides, physical activity based on steps will be more suitable and has a better acceptance by a large-scaled population which is less active in physical activity[31].

Employees in UKM KKL were low active (32.3%). In United States, mean daily steps among South Carolina adults who aged range 18 to 65 were about 6,000 steps /day, this also reported that 13.9% of the population achieved more than 10,000 steps /day[26]. Residents in Colorado aged between 18 to 60 years old achieved approximately 6,800 steps/day but less than 16% of them were in the level of active or highly active in physical activity[32]. This shows that population in UKM KKL was more active than the population in United States. Meanwhile, level of physical activity of employees was more comparable to the level of Finnish adults aged between 30 to 45 years old who achieved 7,500 steps /day[19]. However, employees in UKM KKL were still less active compared to the population in Belgium who reported 9,650 (SD=4,520) steps/day[34].

The present finding showed that administrative employees accumulated significantly more steps/day than academic employees. This may due to the different job scopes as administrative employees such as lab assistants walk more in lab to handle the apparatus meanwhile academic employees such as lecturers probably will stay at the office whole day unless walk to the lecture halls or meeting room. Previous study found that skilled or specialised employees (7,735 steps /day) were more active than academic employees or managers (7,328 steps /day)[19].

Besides, results that employees who came to work by public transportation had significantly more steps/day than those drove to work were consistent with the results of the study by WHO Kobe Centre (2011), where changes in mode of transportation will decrease an individual's level of physical activity[35]. This study mentioned that walking is a good way to increase the physical activity.

There were no significant differences of mean daily steps between gender, age group and marital status. These results supported study of Wyatt, H. R., Peters, J. C., Reed, G. W, et al. It showed that there were no significant gender differences in steps/day. The most active group was 36-42 years-old, and a decline in mean steps/day with increasing age in present finding was consistent with study of Wyatt H.R. Employees who are single were more active than married employees as they were not as burdened as married employees in family or responsibilities, thus more free to do something they like[32]. Findings that employees with higher educational level were more active than employees who achieved SPM level were consistent with study of[19]. This may because they can see clearly and understand more the benefits of an active lifestyle they practice it[36].

Level of KAP on walking was being focused too. Knowledge level on walking among employees in UKM KKL was good. This might be that not everyone is able to absorb all the information given and some tends to forget the information easily[25]. Employees with higher educational level had significantly higher knowledge scores than employees with SPM level. This may because an individual with higher education will be more informative[36] and understand more about the risk of physical inactivity. Employees who came to work by public transportation had lower knowledge scores compared to employees who drove to work as most of them were administrative employees who achieved educational level of SPM.

There were no significant differences of knowledge scores on walking between gender and marital status. Sabran, Redzwan, M., Jamaluddin, et al. found no significant gender difference in knowledge scores on walking although results showed that female is more knowledgeable than male employees as they were more sensitive to public health[37]. Despite the high knowledge among singles[36], higher knowledge scores were found among married employees than single employees. This may due to the unequal distribution of employees in this factor as the difference was only 0.01.

Results indicate that employees in UKM KKL had moderate attitude. Majority of them agreed to perform 10,000 steps /day but some of them might feel the goal was still hard to be achieved. Practice scores on walking differed significantly between genders as female had more positive attitudes. This is compatible with study of previous study as females had better attitude in health than males[38].

In the part of practice of employees on walking, most of them had fair practice level. This shows that the practice of walking among employees in UKM KKL was still not optimum enough although media had played its role[26]. This might be due to the difficulty of changing an individual's behaviour[38] especially in this rapid global. In the present study, group 29-35 years-old had significantly better practice scores than group 51-58 years-old although there was a decline of practice scores with increasing ages. Physical activity level is parallel with the practice scores on walking. Thus, this trend is compatible with other study[27] that recommendation goal of 10,000 steps/day is more difficult to be performed by older adults compared to younger adults. Besides, another study stated that public transportation users had higher daily steps compared to those owned a car[26]. Therefore, employees who used public transportation had more practice scores than those drove to work as they practiced more walking in daily lives. By right, the more an individual walks, the higher the practice scores on walking.

Apart from that, there was a significant relationship between knowledge scores on walking and combination of socio-demographic factors of age, types of occupation and mode of transportation. In other words, factors of age, types of occupation and mode of transportation were potential to predict the knowledge scores on walking. Types of occupation appeared to be the significant predictor in predicting the knowledge scores. This may because the main factors that differed employees in UKM KKL were the types of occupation. Most of the employees had higher educational level and this provided them a better understanding and awareness on latest information and more informative[36]. Education is a requirement to become profession without any professional practice in any occupations[39].

Significant relationship was also reported between practice scores and combination of those three socio-demographic factors. Factors of age and mode of transportation were the significant predictors in predicting practice scores on walking. Previous study stated that age is a factor to affect an individual's level of physical activity[34,40]. Besides, decreasing health status with the increasing of age may also affect an individual's behaviour to be involved in sports[41]. By using public transportation is able to increase and maintain an active lifestyle as the daily steps can be increased day by day to achieve the recommended goal[42]. Majority of the employees insisted to drive to work as their working places were too far away from home and air pollution factor was probably the main concern[43].

Furthermore, mean daily steps of employees can also be predicted by using the combination of those three socio-demographic factors. Factor of age appeared to be the significant factor. This result is compatible with previous study that decreasing of daily steps in male and female with the increasing of age[34].

There was no significant relationship between level of daily steps and level of knowledge on walking. However, significant relationship was reported between level of daily steps and level of practice on walking. This showed that employees who were more inactive tended to have poor level of practice on walking. This shows that a good habit of practice is important to maintain an individual's level of physical activity.

Other factors that may affect the physical activity of an employee may due to the job scope, environmental factor and degree of urbanization. An individual who worked had a higher activity physical that those who did not work[34]. Thus, employees who walk more during working time as needed will have a higher daily steps too[19,34.] For the environmental factor, safety and the ease of exercising in a neighbourhood environment was associated with the frequency of walking for exercise[44]. Urbanization is one of the factors that associated with walking[45]. Previous study indicated that a higher residential density would encourage more residents spending time walking for errands and on breaks at work or school compared to those living in a neighbourhood with low residential density[45].

Lastly, in Malaysia, the hot weather makes the population to prefer to stay at home or in one place with air-conditioning rather than walking or exercising outside. Furthermore, with the advanced of technology nowadays, physical activity may be decreased by the usage of automatic transportation, housing appliances such as washing machine and more leisure time was spent in advanced devices like laptops and smart phones[46]. The limitation of the study as the results were only among university employee, therefore the result might not represent the walking knowledge, attitude and practice in Klang Valley.

CONCLUSIONS

In conclusion majority of the sample were still low active. Administrative employees were more active than academic employees. Additionally, percentage of good score for knowledge, attitude and practice on walking among university employees were 78%, 1.6% and 1.6% respectively. Although the level of knowledge on walking was high but only a some maintain the good attitude and practice on walking despite being aware of the recommended 10,000 daily steps. As a result, interventions aimed to increase walking activity are perhaps useful in this population.

ACKNOWLEDGMENTS

We wished to express our gratitude to all the respondents that willing to be involved and cooperated in this study and the ethics committee of UKM for allowing us to conduct this study. We also would like to thank Faculty of Health Sciences, UKM for the financial support.

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