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Workplace Sedentary Behaviour and Work-related Quality of Life Among Office Workers

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ABSTRACT

Introduction: Work-related quality of life (WRQoL) plays an important role in maintaining workers' performances and organization's productivity. Advanced technology creates changes from paper-based work to computer-based which lead to sedentary behaviour (SB) during working life. This study aims to examine the association between SB and work factors with WRQoL among government office workers. **Methods:** This cross-sectional study involved 126 government office workers in Putrajaya who were randomly selected. Their age ranged between 20 - 60 years old. The adopted WRQoL questionnaire was used to assess their WRQoL while pedometer and OSPAQ were used to determine SB. **Results:** Majority (69.8%) of the respondents were female, Malay (92.9%) and married (84.1%). About half (53.6%) of respondents reported to have high WRQoL. Only 9.5% of them claimed that they were dissatisfied with their WRQoL. Almost all respondents (95.5%) were classified as sedentary. The mean of steps taken per day was 2521.95 steps/day. 55.6% of respondents spent their time above average for sitting per day. SB did not have significant association with WRQoL. Instead, salary, educational level and job position were found to be significantly associated with WRQoL. In multiple regression, only educational level remains significant to predict WRQoL. **Conclusion:** More intervention strategies are needed to reduce workplace SB among office workers.

Keywords: Work-related quality of life (WRQoL), Sedentary behaviours (SB), Occupational sitting and physical activities questionnaires (OSPAQ), Work factors, office workers.

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INTRODUCTION

Modernisation in working life has shifted the nature of many occupations from active to sedentary. Due to development of technologies, many work tasks can be done remotely by using computers and other digital gadgets which promote lengthy sitting behaviour. Sedentary behaviour can be defined as any waking behaviour characterized by an energy expenditure ≤ 1.5 METs, while in a sitting, reclining, or lying posture (1). Office work is considered as sedentary job because workers spent most of their working hours in sitting position (2,3).

In Malaysia, the maximum weekly working hours stated in Employment Act 1955 is 48 hours which is equivalent with 9.6 hours a day for five days a week. Also, it is stated in the Act that the daily maximum duration for workers to work without a break is five hours. This provision indirectly allows workers especially those in administrative departments to work for long duration a day in sitting position. A previous survey recorded that the average weekly working hours for government office workers were 45 hours (SD = 7.89) (Maakip, 2016).

Prolonged time sitting without any break is closely related to negative health effect to human being. These negative effects have been discussed in developed countries since 1950s (4) Evidence suggested that sedentary behaviour was linked with increased rate of obesity, metabolic syndrome, type 2 diabetes, colon cancer, cardiovascular diseases and musculoskeletal disorders in back, neck and arm (4-7). Research findings suggested that the mortality rate is increased by 2% for every sitting hour and can be amplified up to 8% if the total daily sitting is above 8 hours (8).

Sedentary job behaviour will affect workers' work-related quality of life (WRQoL) which is usually mediated by

the factors of psychological, mental and physical health. WRQoL is a generic phrase that covers a worker's feelings about all dimension of work in meeting their personal needs. Since WRQoL affects workers' health and well-being, it plays vital role in determining the success of an organization (9). WRQoL also relates with workers' satisfaction towards their organization. Hence, improving workers' WRQoL is essential to attract and increase employee's loyalty (10).

Based on the Systematic Quality of Working Life Model (11), the WRQoL comprised of six dimensions; (a) general well-being (GWB) which include health condition, mental state, and physical appearance; (b) home-work interface (HWI) that consist of both work and life balance and family-work conflict; (c) job and career satisfaction (JCS) that covers workers' satisfaction with the job and career opportunities; (d) control at work (CAW) which refers to skills development, opportunities to learn and employee participation; (e) working conditions (WCS) which consist of all necessities provided for the workers; and (f) stress at work (SAW) that relates with work pressure and demands.

The GWB relates to individual's feeling of happiness and life satisfaction where it may include physical and psychological well-being (11,12). Those who have better GWB will have better work concentration, adaptability to organizational changes and work performance (11,12). Meanwhile, for home-work interface (HWI), those who can balance between the demands of work and home is proven to have positive job performance (13) various health outcome (14). Imbalance between these two may leads to conflict and various negative consequences.

In the context of job satisfaction, it is closely related to self-motivation. Job satisfaction consistently linked with turnover intention (15,16) job motivation (17), and job performance of workers (18). Meanwhile control at work (CAW) highlights on workers' participation and engagement in organizational decision making that reflects on their confident level. Based on the Job Demand-Control Model (19), lower job control is associated with lower health and well-being. For example, lower job control was found related to all components of burnout among workers (20).
Moreover, working conditions (WCS), also has a major impact on WRQoL. According to the International Labour Organization (ILO), working condition covers from working time to renumeration which included rest time, works schedules, and hours of work. Working conditions can gradually impact other areas of life, including eating, sleeping, accommodation, and directly or indirectly forming inter-personal relationships (21). Furthermore, stress at work (SAW) is one of the main factors that influence WRQoL which is based on workers' capabilities to cope and fulfil the demand of work. According to Easton and Van Laar (11), workplace stress was linked with job satisfaction. However, stress is not always bad. Small level of stress may help workers to stay focus in doing job.

There is sparce evidence on the effect of sedentary work behaviour on WRQoL. Most studies were only discovered on physical inactivity among workers in various sectors that relates with healthy lifestyle which is not the same as sedentary behaviour. Workers who do daily physical exercises may also be classified as having sedentary behaviour if they spent long hours by sitting and lying down such us office workers. Moreover, research on sedentary lifestyle always focused on non-occupational physical activity and involve general population. Little is known about sedentary job which specifically looking into work condition that promote such unhealthy behaviour. So far, there has been little research on WRQoL among office workers. To sum up, there is still room to increase the knowledge regarding sedentary behaviour and WRQoL and the present study aims to fill the knowledge gap in this area.

MATERIALS AND METHODS

Study design, study location and sampling

This cross-sectional study was conducted at the government agencies. The highest rate of sedentary behaviour is among administrative workers and government is the biggest administrative body in Malaysia. Putrajaya was selected as the study location. Putrajaya is known as administrative centre for Malaysian Government, where most of the administrative civil servants were located there. Selected government agencies were involved comprising various departments and included from higher to lower rank of workers.

The sampling population was among government office workers who worked with screen, monitor or computer in their daily job. The inclusion criteria were Malaysian office workers who used computer more than 4 hours, experience in work more than 1 year, and aged within 18 to 64 years old. Those suffered from mental illness (professionally diagnosed) were excluded in this study to maintain the reliability of the research findings. Based on the formula by Kirkwood and Sterne (22), the desired sample size was 100 after considering an additional of 10% to compensate for non-response rate. The prevalence of 50% was used in the sample size calculation. This prevalence was referred to a previous study among Malaysian workers (23). The list of all departments in Putrajaya and the name list in each department were obtained from the Department of Human Resources. Departments and respondents were randomly selected through ninja picker. The selected departments are Department of Accounts, Department of Information and Communication Technology, Department of Human Resources, Department of Labour of Peninsular Malaysia, Department of Corporate Relation Malaysia, Department of Fisheries, Department of Assessment and Evaluation

Instrumentation and Data Collection

Questionnaire

Volunteers were venipunctured to collect eight millilitres of whole blood in two 4 ml EDTA tubes for heavy metal blood content assessment and DNA genotyping by qualified professionals. Heavy metal blood concentration samples were maintained at -20°C and analysed within 2 days, whereas DNA genotyping blood samples were retained at -80°C until further investigation.

The main instrument for this study was self - administered questionnaire in Malay version which comprised of 42-items. The translation from the original English-version to Malay was confirmed through back-to-back translation. Pre-test was conducted among respondents which involved 10% of the sample size in a similar population that have similar characteristic. The reported Cronbach-alpha obtained was 0.72 which was considered as acceptable.

The first section enquires sociodemographic background which include age, gender, education level, monthly income, smoking status, and chronic diseases. The second section assessed respondents' working characteristic. It collected information on job status, job departments, working experiences, the usage of computer and work activities.

For work activities, questions were adapted from Occupational Sitting and Physical Activities Question (OSPAQ). The OSPAQ indicated good or excellent test-retest reliability, as reflected by the intraclass correlation coefficient (ICCs) for minutes spent sitting (0.66), standing (0.83) and walking (0.77) in the office workplace setting (24). It measured the proportion of work time spent for sitting, standing, walking, and doing heavy labour, as well as the total length of time worked in the past five working days. In the OSPAQ, respondents were asked, 'how would you describe your situation at work in the last 7 days (only involves working days)?'. The scoring method for this section is based on percentage and written by the respondent. Respondents needed to allocate the daily average percentage they spent for each of the four activities (sitting, standing, walking, and doing heavy duty) from the total working hours in the past 7 days. The total percentage obtained from the four activities should be 100%.

The last section measured respondents' WRQoL adapted from Easton and Laar (11) that consist of 24 questions which was suitable for office workers. It was designed in Likert's 5-point scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, and 5=strongly agree). It comprises six domains which are general well-being (GWB), home-work interface (HWI), job and career satisfaction (JCS), control at work (CAW), working conditions (WCS) and stress at work (SAW). For better assessment and comparison of results with other studies, total point of each field of life quality questionnaire was balanced in the range of 0-100. The total scores for 6 domains were added to obtain overall WRQoL score. Each domain and overall score were categorised into three level: lower, average, higher. Lower level indicates that individuals have poor level of general well-being (GWB), home-work interface (HWI), job and content satisfaction (JCS), control at work (CAW) and low level of stress at work (SAW).

Pedometer

Pedometer was used to measure the sedentariness of respondents where they were required to wear it at the waistline. It tracks the number of steps taken per day. The respondents were given a logbook to record the readings obtained per day. The respondents were instructed on pedometer attachment at the waist, its removing (going to bathroom, performing prayer and having lunch) and reattachment before starting their job. Intraclass correlation coefficient (ICC) has been conducted for pedometer and OMRON step counter. The result obtained was ICC = 0.81, $p < 0.01$. For convergent validity, there is moderate correlation with Omron with condition, $r = 0.67$, $p < 0.01$. Based on the values obtained, it can be concluded that pedometer was a reliable tool to be used in this research. The cut-off point pedometer was referred to a previous study (25). Sedentary is categorised as <5000 steps per day, and those who were active engaged at least 10 000 steps per day.

Procedure of data collection

The researcher distributed the informed consent form and questionnaires through the person in charge in every department. Prior to the data collection, the study purposes were briefed at the early section of the form to the respondents before they answered the questionnaire given. After completing the questionnaire, the questionnaire was returned to the respective person in charge. Other than that, google form was used to replace the paper-based questionnaire. The link was disseminated via organisation email and WhatsApp group within one month. Throughout the period, the participation was voluntary, and the participant may withdraw anytime without penalty or loss of benefit to which the participant is entitled. To ensure the confidentiality of their answers, only researchers have access to the data obtained.

Statistical analyses

Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS). Pearson's correlation, independent t-test and One-Way ANOVA were used to examine the associations between different variables. A multiple linear regression analysis was run to determine the predictor for work-related quality of life. Variables that were found significant in bivariate analyses ($p < 0.15$) were included in the multiple regression model.

Ethical Consideration

The respondents were informed that information provided is confidential and have got permission from the UPM Ethic Committee (JKEUPM-2020-009) and permission from the government agencies.

RESULTS

Sociodemographic background

Out of 126 respondents, the mean for age 39.95 ± 8.51 years old. Majority (69.8%) of them were female office workers. Most of them were Malay, married and graduated with bachelor's degree. Their average monthly income was RM 7975.52 ± 5925.26. Only 3 (2.4%) of them were contract workers. More than half of them (53.2%) were support staffs. The mean of working experiences was 11.68 ± 7.68 years. They used computer at least 7 hours daily. Respondents were from seven different departments: Department of Accounts, Department of Information and Communication Technology, Department of Human Resources, Department of Labour of Peninsular Malaysia, Department of Corporate Relation Malaysia, Department of Fisheries, Department of Assessment and Evaluation. Refer table I.

Table I. Distribution of socio-demographic and work characteristics (N=126)

Variables	Mean ± SD	Total (%)
Age (years old)	39.95 ± 8.51	
Gender		
Male		38 (30.2%)
Female		88 (69.8%)
Races		
Malay		117 (92.9%)
Bumiputra Sarawak and Sabah		9 (7.1%)
Marital status		
Single		17 (13.5%)
Married		106 (84.1%)
Divorced/single mother		3(2.4%)
Educational levels		
SRP/PMR/SPM		19 (15.1%)
STPM/Diploma		30 (23.8%)
Bachelor's Degree		56 (44.4%)
Master's Degree		21 (16.7 %)
Monthly income (RM) (*n*=117)	7975.52 ± 5925.26	
Job Designation		
Administrative officer		59 (45.8%)
Support staff		67 (53.2%)
Work status		
Permanent		123(97.6%)
Contract		3(2.4%)
Work experiences (Years)	11.68 ± 7.68	
Computer Usage (hours/daily) (*n*=125)	7.59 ± 1.77	

Descriptive analysis
t at p < 0.05 level

Distribution of sedentary behaviour

Sedentary behaviour was assessed based on steps taken per day collected by pedometer among 44 respondents. From 44 respondents whom the number of steps daily were recorded, only two respondents were classified as active. Work activities refers to minutes of sitting, standing, walking and heavy work per week and per day were obtained from OSPAQ among 126 respondents. The mean of steps taken per day was 2521.95 steps/day. Based on the findings mean for work activities., respondents remain seated at least for 235.73 minutes per day which equivalent to 3.9 hours since they worked with monitor. They spent their time walking per day for 108.23 minutes. The average minutes for standing were 91.44 minutes and they engaged with heavy work at least for 45.79 minutes per day. Table II shows the classification of sedentary behaviour based on the above-mentioned minutes for each activity.

Table II. Distribution of Sedentary behaviour of respondents (*N*=126)

Variables	*f* (%)	Mean ± SD
Reading of Pedometer (steps/day)		
Average Reading (n=44)		2521.95 ± 1520.94
Sedentary	42(95.5%)	
Active	2(4.5%)	
Work Activities (minutes/day)		
Sitting		235.73 ± 93.89
Standing		91.44 ± 43.27
Walking		108.23 ± 56.55
Heavy Work		45.79 ± 44.04
Work Activities (minutes/day)		
Sitting		
Below average	56(44.4%)	
Above average	70(55.6%)	
Standing		
Below average	48(38.1%)	
Above average	78(61.9%)	
Walking		
Below average	70(55.6%)	
Above average	56(44.4%)	
Heavy Work		
Below average	62(49.2%)	
Above average	64(50.8%)	

Descriptive analysis

Table III describes the sedentary level of respondents. Based on available data, 95.5% of respondents lived in sedentary. The cut-off point pedometer was based on sedentary cut by Tudor-Locke and Bassett (2004).

Then, work activities were classified into two groups: above and below average. By referring to the average values obtained in table II, 55.6% of respondents spent their time above average for sitting per day. Out of 126 respondents, only 48 of them spent their time standing per day below average. Next, majority of respondents tend to walk less than the average and only more than half of respondents engaged with heavy work task above than the average.

Table III: Distribution of work-related quality of life among respondents (*N*=126)

Variables	Total *(%)*
General well-being (GWB)	
Lower	15(11.9%)
Average	82(65.1%)
Higher	29(23.0%)
Home-Work Interface (HWI)	
Lower	12(9.5%)
Average	32(25.4%)
Higher	82(65.1%)
Job and Career Satisfaction (JCS)	
Lower	11(8.7%)
Average	32(25.4%)
Higher	83(65.9%)
Control at Work (CAW)	
Lower	33(26.2%)
Average	37(29.4%)
Higher	56(44.4%)
Working Conditions (WCS)	
Lower	26(20.6%)
Average	12(9.5%)
Higher	88(69.8%)
Stress at Work (SAW)	
Lower	52(41.3%)
Average	52(41.3%)
Higher	2(17.5%)
Work-related Quality of Life (Overall score)	
Lower	12(9.5%)
Average	43(34.3%)
Higher	71(56.3%)

Descriptive analysis

Distribution of Work-related Quality of Life (WRQoL)

For total WRQoL, 56.3% of office workers reported to have high work-related quality of life, 43(34.3%) of them had moderate WRQoL and only 9.5% of them claimed that they were dissatisfied with their WRQoL. Majority of respondents reported to have average level of general well-being (GWB) (65.1%), high level of home-work interface (HWI) (65.1%), high job and career satisfaction (JCS) (65.9%), high control at work (CAW) (44.4%), high level of working condition (WCS) (69.8%), and low to average level of stress at work (SAW) (82.6%). For all dimension of WRQoL except HWI, higher scores indicate better condition. In contrast, for HWI higher scores indicate higher level of interface reflecting poorer balance between home and work. See table IV.

Table IV: Relationship between socio demographical and WRQoL (*N*=26)

Variables	Age		Monthly income		Education levels	
	r	p-value	r	p-value	F-value	p-value
General Well-Being	0.130	0.146	0.184	0.047*	3.550	0.017*
Home-Work Interface	0.095	0.290	0.109	0.241	1.892	0.135
Job and Career Satisfaction	0.165	0.065	0.204	0.028*	2.665	0.051
Control at Work	0.210	0.018*	0.308	0.001*	7.777	0.001*
Working Conditions	0.158	0.076	0.236	0.010*	4.367	0.006*
Stress at Work	-0.271	0.001*	-0.186	0.045*	0.205	0.893
WRQoL	0. 139	0.121	0.222	0.016*	5.251	0.002*

One way ANOVA = F-value; Pearson Correlation = r – value *Statistically significant at $p < 0.05$ level

Relationship between socio-demographical characteristics and WRQoL

Several statistical analyses were conducted to determine the association between socio-demographic characteristics with WQoRL. See table IV. Results indicated that older respondents had better control at work and lower level of age compared to younger

respondents. Pearson correlation analyses were also run to test the correlation between monthly income with all dimensions of WRQoL. Results showed that all dimensions except HWI significantly correlated with monthly income indicating that better income is related with better GWB, JCS, CAW, WCS and total WRQoL and lower level of SAW. A one-way ANOVA was conducted to compare the mean of different education levels on WRQoL. The mean for GWB, WCS, CAW and WRQoL were significantly different between education levels, $p < 0.05$. Overall, results indicated that those with higher education levels had better GWB, WCS, CAW and WRQoL. See table V.

Table V: Relationship between work factors and WRQoL (N=126)

Variables	Departments		Job designation		Computer Usage	
	F-value	p-value	t-value	p-value	r	p-value
General Well-Being	0.919	0.484	1.638	0.104	0.058	0.519
Home-Work Interface	0.714	0.639	1.533	0.128	-0.080	0.379
Job and Career Satisfaction	2.403	0.032*	1.679	0.096	-0.087	0.334
Control at Work	1.624	0.146	3.337	0.001*	0.000	1.-00
Working Conditions	1.666	0.135	1.962	0.052	-0.173	0.054
Stress at Work	2.714	0.017*	0.382	0.703	0.236	0.008*
WRQoL	1.42	0.212	2.544	0.012*	-0.018	0.842

One way ANOVA = F-value; t-test = t-value; Pearson Correlation = r – value *Statistically significant at $p < 0.05$ level

Relationship between work factors and WRQoL

Several statistical analyses were conducted to explore the relationship between work factors and WRQoL. See table VI. A one-way ANOVA was conducted to compare the means of all dimensions in WRQoL by different departments. Results showed that there were significant different of means between HWI and SAW with different departments. Regarding job designation, t-test analyses were run to explore the different of mean of different dimension of WRQoL by job designation (administrative versus support staffs). Findings indicated that support staff had better control at work and higher level of stress at work compared to administrative staffs. Correlation analyses was run to see the relationship between hours of computer usage and WRQoL. Results illustrated that longer duration of computer usage was significantly correlated with higher level of stress at work.

Table VI: Multiple Regression Analysis on predicting CAW (*N*=126)

	B	Std. Error	Beta	t	Sig.	95%CI
(Constant)	6.67	1.93		3.45	<0.01	2.84-10.51
Age	0.02	0.03	0.07	0.68	0.50	-0.03-0.07
Education level	0.86	0.28	0.39	3.12	<0.01*	0.31-1.41
Income level	<0.01	<0.01	0.17	1.48	0.14	<0.01-<0.01
Work position	0.45	0.56	0.11	0.81	0.42	-0.65-1.55
Department	0.06	0.11	0.05	0.60	0.55	-0.15-0.28

R=0.43, R^2=0.19, adR^2= 0.16, *Statistically significant at $p < 0.05$ level

Multiple regression predicting WRQoL

Multiple regression analyses were conducted to explore the relationship between five independent variables: age, education level, income level, work position and department with all dimensions of WRQoL. In total, only the model for predicting control at work and stress at work were significant. Stepwise regression was chosen to identify a useful subset of the predictors for WRQoL. See table VII. For control at work, the model produced explained 19% of the variance in CAW. The only significant association was found between education level and CAW in which higher educational level was significantly associated with better CAW. For predicting SAW, the model explained 13% of the total variance in SAW. In this model, only age was found significantly associated with SAW in which older respondents had lower level of stress at work.

Table VII: Multiple Regression Analysis on predicting SAW (*N*=126)

	B	Std. Error	Beta	t	Sig.	95%CI
(Constant)	8.91	1.72		5.19	<0.01	5.51-12.31
Age	-0.06	0.02	-0.29	-2.63	0.01*	-0.11-(-0.01)
Education level	-0.23	0.25	-0.12	-0.95	0.34	-0.72-0.25
Income level	0.00	0.00	-0.09	-0.76	0.45	<0.01-<0.01
Work position	-0.86	0.49	-0.24	-1.73	0.09	-1.84-0.12
Department	0.15	0.09	0.14	1.58	0.12	-0.04-0.34

R=0.36, R^2=0.13, adR^2= 0.09, *Statistically significant at $p < 0.05$ level

DISCUSSION

Work has been a part of human life. Work-related quality of life (WRQoL) was important to ensure the productivity of workers in organization. According to Mazlan et al., (23), workers with high level of WRQoL tend to have the best performance during working because they are generally happy and satisfied with their working life. Happy and satisfied workers may reduce the rate of absenteeism and improve the productivity by preventing from any accidents occur. Overall, 51.3% of respondents had high WRQoL scores and only 10% reported low WRQoL scores which indicated that majority of respondents were satisfied with their quality of working life and did not take it for granted (11).

With regards to sedentary behaviour, in this study, results from pedometer readings showed that 95.5% of respondents were sedentary at work. Other than that, result from this study also demonstrated that the self-reported average occupational sitting was 235.73 minutes where 70% of them were seated for more than 3 hours. These findings are rather expected since, the common working hours for administrative civil servants are at minimum nine hours daily including one hour break. These findings are consistent with those of many previous studies related to sedentary behaviour among office workers because the working hours applied in Malaysia is similar with many countries globally. For example, these findings are consistent with the results found in a recent study involving 2608 government administrative employees in USA (26). Their nature of work asked them to sit in front of computer for long working hours.

A previous study explored on the barriers and facilitators of adapting active behaviour at workplace (27). This study found out that the most frequently reported barrier was sitting is a habit followed by standing is uncomfortable and standing is tiring. The most welcome facilitators were the introduction of either standing- or walking-meetings and more possibilities or reminders for breaks. These facilitators are rarely being practiced in Malaysian work setting. Most meetings were made in a formal meeting room that require workers to sit throughout the meeting. Moreover, mostly the reminders for breaks are only being implemented for one hour lunch break which are after four to five hours of continuous sitting from early morning.

However, the presents results depict that sitting per day have poor correlation with WRQoL. The context of relationship between these two variables remains unclear. There was insufficient evidence that discovers the association between sedentary behaviour and WRQoL. However, past studies proved that sedentary behaviour may lead to the development of disease such as diabetes due to low consumption of energy expenditure (28, 29). Nevertheless, the association between sedentary behaviour and health outcomes are still uncertain (30). Another study showed that sedentary office workers tend to develop musculoskeletal disease which later affect their health-related quality of life (31). This was supported with finding by Narehan et al., (32) where the authors discovered that WRQoL directly or indirectly influence workers' Quality of Life and WRQoL was one of the components of Quality of Life.

All components of WRQoL did not have significant association with gender, marital status, and races. These findings were supported by those of previous research (33). Either men or women, both experiencing equal level of WRQoL. Other than that, (34) reported that there was no difference between being single or married person. However, another study claimed that married individual capable to survive with work environment and have better quality of work life as compared to the singles (35). Findings of a more detail study concluded that the relationship between gender and marital status was significant but different with ages. In older ages, married individuals had better quality of life but for younger individuals, singles were had better quality of life than married individuals (36).

In multiple regression, this study showed that only education level was significant in predicting WRQoL after considering the factors of age, income, work position and department which were found significantly associated in bivariate analyses. Findings indicated that those with higher level of education may have better WRQoL. This result was supported by the findings from Moradi et al., (10) who reported that there was significant relationship between education and WRQoL. Another research also reported that higher education levels lead to higher WRQoL (37). Higher levels of educational achievement are commonly connected with better opportunities in career development and better income, hence giving a positive effect on a workers' quality of life.

CONCLUSION

Overall, the outcome of this research found out that majority of respondents were sedentary at work but overall, they experienced good quality of work life. Level of education was found to be the only significant factor predicting WQoL after considering socio-demographic factors and other work-related factor. However, the percentage of sedentary behaviour among respondents were high since sedentary behaviour is an established main factor for chronic diseases it is therefore recommended for the institution to reduce the sedentary behaviour among respondents to reduce their risk of having chronic diseases. Various methods can be implemented including health promotion, provision of more recreational spots at the workplace, and policy development that encourage respondents to be more active at the workplace. Future studies that explore

on factors related to sedentary behaviour and how to mitigate it appeared to be the most warranted. Future study that explores other possible factors that influence WRQoL is worth to be conducted to fill the gap to further understanding the WRQoL.

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