

Related energy consumption Lifestyle habits of Overweight Office Workers in Korea

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Abstract. The purpose of this study was to related energy consumption lifestyle habits of overweight Office worker in Korea. A total of 84 male office worker voluntarily participated in the study, and the participants underwent the measurements of energy consumption lifestyle habits and BMI. For groups analyses, the subjects were classified as normal weight(n=30) and overweight(n=54) groups based on a BMI cut-point of 23.0kg/m². In the results, energy consumption were significantly different for commute time(p<.001) in overweight. And the overweight group were a significantly different for working hours(p<.017), sedentary work time(p<.001) than the normal weight group. In Conclusion, the present results of this study, we recommend that you reduce the time it sit for a long time and increased physical activity habits to adopt. Therefore, it should be promoted as a key component of lifestyle interventions for the prevention of body mass workers.

1 Introduction

Korean National Health and Nutrition Examination Survey(2011), adult obesity (BMI>25kg/m²) was 25.8% (1998), 31.4% (2005), 31% (2008) and 31.4% (2010) has increased steadily[1]. In Korean, 30% of adults suffer from obesity. The cause is a change in dietary life and reduced physical activity. Reduction of this physical activity is the main risk factor for cardiovascular disease, chronic disease and mortality[2].

Recent studies indicate that obesity has been reported to be associated with reduction of physical activity due to sedentary life found in industrialized societies[3], [4].

Lallukka et al [1] was more active work operations decreased risk of obesity, and office worker of Loss physical activity than production workers was Metabolic syndrome, hyperlipidemia, cardiovascular disease and associated higher risk factor such as obesity. The sedentary lifestyle of modern people and correlated with obesity, the daily activity represents that physical activity/ most can be influenced by the work activities[5].

Therefore, Workplace, which directly influences the physical and social well-being of employees, is considered important environmental of health. This purpose of this

study was to compare the energy consumption related to lifestyle habits of overweight and normal weight in office worker.

2 Methods and Results

2.1 Study design and study subjects

The purpose of this study was to design related energy consumption lifestyle habits of overweight Office worker in Korea. Subjects of the study were enrolled in the male workers (n=84) working in the office sector in the research and development of non-active forms. A total of 84 male office workers voluntarily participated in the study, and the participants underwent the measurements of energy consumption lifestyle habits and BMI. For groups analyses, the subjects were classified as normal weight (n=30) and overweight (n=54) groups based on a BMI cut-point of 23.0kg/m². And group was compared to the relevant energy consumption lifestyle.

Table 1. Characteristics of subjects

	Overweight (n=54)	Normal weight (n=30)	<i>p</i>
Age(yrs)	35.67±9.45	40.60±9.81	.026
BMI(kg/m ²)	21.25±2.34	28.75±5.86	.001**
Weight(kg)	83.97±16.30	66.19±5.62	.001**
Waist circumference	91.26±11.71	79.67±4.40	.001**
Body fat(%)	25.33±5.86	16.61±3.86	.001**

*0.05, ** 0.001

3.1 Study Methods

Body weight and body fat was measured using an automatic measuring instrument(DS-102, Jenix, Korea) and BMI was calculated as the weight in kilogram divided by the square of the height in meter. And waist circumference is and anthropometric measure was used.

All participants completed a comprehensive data sheet that included demographic data, medical history, eating behavior, job strain and life style, leisure time, physical activity. Physical activity was determined by questions about service period, working hours, commuting time, transportation, sleep, exercise frequency, exercise time

Total daily energy consumption was to estimate the sedentary time for subjects to recorded all activities of until a 10-minute. Recorded all activities was calculated

metabolic activity in the basal metabolic rate kcal included in the list of substitutes Action energy consumption (kcal/min) of the Choi et al. [6].

All data collected were processed using SPSS statistical program (ver. 18), all values are expressed as mean \pm SD. Physical characteristics of subjects according to BMI, the difference in energy consumption related to lifestyle factors was conducted by independent T test and χ^2 test with a significance level of 0.05.

4.1 Results

In the results, energy consumption were significantly different for commute time ($p < .001$) in overweight. And the overweight group were a significantly different for working hours ($p < .017$), sedentary work time ($p < .001$) than the normal weight group. But, sleep time was not significantly ($p < .309$) difference between the two groups.

Table 2. Energy consumption Lifestyle of subjects

	Overweight (n=54)	Normal weight (n=30)	<i>p</i>
Energy consumption (kcal/day)	3391.14 \pm 631.95	2845.37 \pm 391.79	.001**
Sleep time (min)	377.78 \pm 61.26	391.00 \pm 47.22	.309
Commuting time (min)	35.61 \pm 24.40	55.50 \pm 21.63	.001**
Working time (min)	614.44 \pm 112.32	556.00 \pm 90.42	.017*
Sedentary time (min)	804.91 \pm 104.02	687.83 \pm 87.41	.001**

*0.05, **0.001

3 Conclusions

We showed that BMI had significant association with the change of energy consumption lifestyle.

Recent studies indicate that daily energy consumption of the worker, depending on the attributes of the industry, were lower of office workers than production workers [7], And total of job-related physical activity and total physical activity represented significantly difference between the two groups [8].

We also showed that commuting times are normal weight group is longer than overweight ($p < .001$). Therefore, it can be concluded that longer the commute time work longer hours brought the effect of increasing the energy consumption.

However, many studies which complement the environmental improvements that

can increase physical activity during work hours and development of various programs must be continued.

References

1. Korea Ministry of Health & Welfare. Korean National Health and Nutrition Examination Survey '07~'10. (2012)
2. Lallukka, T., Lahalma, E., Rahkonen, O., Roos, E., Laaksone, E., Martikainen, P.: Associations of Job Strain and Working Time with Adverse Health Behaviors and Obesity: Evidence from the Whitehall II Study, Helsinki Health Study, and the Japanese Civil Servants Study. *Soc. Sci. Med.* 66(8), 1681--1698. (2008)
3. Hill, J.O., Wyatt, H.R.: Role of Physical Activity in Preventing and Treating Obesity. *J. Appl. Physiol.* 99(2), 765--770. (2005)
4. Bensimhon, D.R., Keaus, W.E., Donahue, M.P.: Obesity and Physical Activity a Review. *Am. Heart. J.* 151(3), 598--603. (2006).
5. Alavi, S.S., Makarem, J., Mehrdad, R., Abbasi, M.: Metabolic Syndrome: A Common Problem among Office Workers. *Int. J. Occup Environ. Med.* 6(1), 34--40. (2015)
6. Choi, M. H. et al.: 21C Nutrition, pp548, Kyomunsa, Seoul. (2008)
7. Park, H.S., Oh, S.W., Cho, S.I., *et al.*: The Metabolic Syndrome and Associated Lifestyle Factors among South Korean Adults. *Int. J. Epidemiol.* 33, 328--36.(2004)
8. Tsai, T.Y., Cheng, J.F., Lai, Y.M.: Prevalence of Metabolic Syndrome and Related Factors in Taiwanese High-tech Industry Workers. *Clinics (Sao Paulo)*, 66, 1531--1535. (2011)