Australian Journal of Basic and Applied Sciences, 9(8) Special 2015, Pages: 132-135

ISSN:1991-8178

Australian Journal of Basic and Applied Sciences

Journal home page: www.ajbasweb.com

Daily lifestyle and body composition among Adolescents in Kuala Lumpur, Malaysia.

Farihah Abu Kasim and Che Wan Jasimah bt Wan Mohamed Radzi

Department of Science and Technology Studies, Faculty of Science, University of Malaya, 50603 Lembah Pantai, Kuala Lumpur, Malaysia.

ARTICLE INFO

Article history:
Article history: Received 12 February 2015
Accepted 1 March 2015
Available online 28 March 2015

Keywords:
weight gain, obesity, overweight, adolescents, exercise, food intake

ABSTRACT

Background: Obesity and overweight rate among adolescents have increased over the last 4 decades. Daily lifestyle like eating behavior and physical activity play a role to contribute to this growing trend**. Objective:** This study aims to determine whether any association exists between daily lifestyle especially adolescent daily eating behavior and their daily physical activities with their body composition. **Results:** Findings from the studies showed a positive association between daily physical activities of the respondents. 78% of the respondents were at the normal weight, around 13.5% of the respondents were overweight and 9.6% were obese. Those obese were found have a lower rate of daily physical activity compare to those who are normal. **Conclusion:** A large number of studies show that there is a link between energy intake and physical activity and weight status. The recommendation that we make is increasing the physical rate could help prevent weight gain and other health problems related to obesity.

To Cite This Article: Farihah Abu Kasim and Che Wan Jasimah bt Wan Mohamed Radzi., Daily lifestyle and body composition among Adolescents in Kuala Lumpur, Malaysia. ***Aust. J. Basic & Appl. Sci.,*** *9(8): 132-135, 2015*

INTRODUCTION

Over the past four decades, the number of prevalence of overweight and obese youth is rising globally. A recent International Obesity Task Force (IASO/IOTF) analysis (2010) estimates that globally, up to 200 million school-aged children are either overweight or obese, of which, 40-50 million are classified as obese. These trends are concerning because obese children tend to influence their health in adulthood (Whitaker *et al*.,1997) like psychosocial disorders (Pierce and Wardle, 1997) and cardiovascular disease (Freedman *et al*., 2001; Must *et al*., 1999; Berenon *et al*., 1998; Richard and Maureen, 2003; Sinha *et al*.,2002). Being overweight or obese is associated with numerous health implications, including hypertension, cardiovascular diseases, diabetes, depression, and certain types of cancers (Must *et al*., 1999).

Youth obesity could be influence by energy intake or expenditure. A variety of factors may cause obesity, from genetics, to psychological, social, and environmental factors (Keith *et al*., 2006). Many researchers have pointed out obesity is primarily caused by dietary habits and physical activity. In general, obesity is the result from energy imbalance when energy intake exceeds energy expenditure.

In the past few decades, adolescents were more likely to consumer unhealthy food products such as fast food, snacks and soft drinks. (Truswell and Darnton, 1981; Story *et al*, 2002). At the same time, physical activity patterns in youth have changed, they spent more time in watching television, playing video games, accessing the internet and lack of the outdoor activities (French *et al*., 2001; Robinson and Godbey, 1997). The objectives of this study is to estimates of the prevalence rates of overweight and obesity for 14–17-year-old Malaysian youths and to examine the associations between overweight and obesity with dietary habits and physical activities.

Methods:

This pilot test, a cross-sectional study applying systematic sampling strategy to select the respondents from secondary schools in Federal Territory of Kuala Lumpur, Malaysia. A self-administered questionnaire was distributed to respondents. Permission was also obtained from Ministry of Education and the respective school principals before the study was carried out. A letter explaining the study purpose was sent to all parents and respondent who involved. The target population for this research was adolescents between the age of 14 to 17 years. 60 questionnaires were distributed to selected schools. A total of 56 questionnaires were collected back, 6 participants' questionnaires were incomplete. Hence, their data were excluded from all

Corresponding Author: Farihah Abu Kasim, Department of Science and Technology Studies, Faculty of Science, University of Malaya, 50603 Lembah Pantai, Kuala Lumpur, Malaysia.
Tel: +603-79675182; E-mail: jasimah@um.edu.my

analysis. The final sample consisted of 50 respondents.

Statistical analysis was performed using SPSS version 17.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were used to describe features of the sample. In order to examine the relationship between variables, logistic regression was used to predict the odds that dependent variable (outcome) varied by gender after adjustment for age. The result presented together with their 95% Confidence Interval (CI). The level of significance was set at $p<0.05$ when the 95% CI did not overlap.

Results:

Data were collected from 50 students (23 males and 29 females). Among the respondents, 44% students were 14 years old; 16% were 15 years old; 22% were 16 years old; 18% were 17 years old. 78% of the respondents were in normal weight, 14% of the respondents were overweight and 8% were obese. Results of the logistic regressions examining the associations among dietary habits, overweight, and obesity are presented in Tables 1. There was a negative relationship ($p < .05$) between fruit intake and BMI in boys. There was a positive relationship ($p <.05$) for fat consumption and soft drinks in both genders. No significant relationship is found for vegetable intake and BMI of both genders. Tables 2 provides the associations between physical activities, overweight and obesity. There was a positive relationship ($p < .05$) between indoor activity participation and BMI.

Table 1: Associations between obesity and dietary habits by gender

	Boys	Girls
Dietary Variable	OR (95% CI)	OR (95% CI)
Vegetables		
Less than 1/ day	1.00	1.00
1/day	1.22 (0.85-1.75)	1.01(0.65-1.60)
2 -3/day	1.26(0.86-1.84)	1.03(0.66-1.61)
More than 3/ day	1.29(0.86-2.00)	0.96(0.59-1.48)
Fruits		
Less than 1/ day	1.00*	1.00
1/day	0.78(0.55-2.00)	1.23(0.80-1.87)
2 -3/day	0.72(0.55-0.98)	1.20(0.76-1.90)
More than 3/ day	0.62(0.42-0.90)	1.16(0.73-1.81)
Soft Drinks		
Less than 1/ day	1.00*	1.00*
1/day	0.96(0.71-1.31)	1.60(0.94-2.72)
2 -3/day	1.37(0.78-2.42)	1.96(1.03-3.73)
More than 3/ day	1.50(1.08-2.06)	2.00(1.04-3.84)
Fat (oily food/ fried food/oil)		
Less than 1/ day	1.00*	1.00*
1/day	0.61(0.44-0.86)	0.65(0.38-1.10)
2 -3/day	0.91(0.51-1.57)	0.78(0.54-1.14)
More than 3/ day	1.05(0.65-1.68)	0.86(0.65-1.17)

* Significant negative trend ($p < .05$).
OR (95% CI) = odds ratios (95% confidence intervals). Adjusted for age and physical activities.

Table 2: Associations between obesity and physical activities by gender

	Boys	Girls
Physical activities	OR (95% CI)	OR (95% CI)
Indoor activity		
Less than 1/ day	1.00*	1.00*
1/day	1.58(1.13-2.17)	1.57(1.10-2.26)
2 -3/day	1.37(0.79-2.39)	1.72(1.20-2.48)
More than 3/ day	2.13(1.28-3.59)	1.92(1.35-2.70)
Outdoor activity		
Less than 1/ day	1.00*	1.00*
1/day	0.59(0.42-0.84)	0.57(0.35-0.97)
2 -3/day	0.28(0.17-0.46)	0.50(0.31-0.83)
More than 3/ day	0.28(0.16-0.48)	0.49(0.25-0.99)

* Significant negative trend ($p < .05$).
OR (95% CI) = odds ratios (95% confidence intervals). Adjusted for age and dietary variable.

Discussion:

The purpose of this study is to provide the recent estimation of the prevalence rates of overweight and obesity in adolescents and to link overweight and obesity of youth with lifestyle habits, in Kuala Lumpur, the capital city of Malaysia. Our findings indicate that 78% of the respondents are normal

while have around 22% of the respondents were facing the obesity and obese problem.

Based on the finding, overweight and obesity are caused by an imbalance between energy intake and expenditure, any other factors are contribute to youth obesity still remain unclear. Changes in dietary patterns, increase in the consumption of high fat and unhealthy foods, have playing a role in increasing the obesity rate (Truswell and Darnton, 1981; Story *et al*, 2002). Indeed, the intake of healthy foods like vegetables was low in this research. According to Malaysian Dietary Guidelines for children and adolescents, 5–10 servings of fruits and vegetables per day are recommended (National Coordinating Committee on Food and Nutrition, 2013). However, less than half of the youth reported eating fruits or vegetables more than once per day in our study.

There are many teenagers reported, the consume soft drinks more than once per day. We did observe some significant associations among soft drinks, fat consumption, overweight, and obesity. This finding is consistent with the 2003 World Health Organization (WHO) report - Diet, Nutrition and the Prevention of Chronic Disease. In that report, the association between sweetened beverage consumption, unhealthy food and the risk of developing overweight states and obesity have been proved (Joint WHO/FAO Expert Consultation, 2003).

In the present study we observed high prevalence rates of sedentary behaviors and there was a strong trend for increased overweight and obesity with increased indoor activities time in boys and girls. These results support indoor actives participation will contribute to the childhood obesity.

Our research has several limitations. First, the cross-sectional design of the survey, inferences regarding cause and effect must be made with caution and will not be conclusive. Second, this study finding may not be generalized beyond the study group because the sample size is too small. Additional studies are needed to verify findings in representative population samples.

Conclusions:

Our data indicate that physical inactivity is associated with overweight and obesity in youth. A large number of studies also showed there is a link between energy intake and physical activity and weight status. Therefore, more national public health campaigns should be organized to encourage youth increasing physical activity participation and having a healthier lifestyle.

REFERENCES

Berenson, G.S., S.R. Srinivasan, W. Bao. *et al*, 1998. Association between multiple cardiovascular risk factors and atherosclerosis in children and young adults. The Bogalusa Heart Study. N Engl J Med, 338: 1650-6.

Freedman, D.S., L.K. Khan, W.H. Dietz, *et al*., 2001. Relationship of childhood obesity to coronary heart disease risk factors in adulthood: The Bogalusa Heart Study. Pediatrics, 108: 712-8.

French, S.A., M, Story., and R.W. Jeffery, 2001. Environmental influences on eating and physical activity. Annu Rev Public Health, 22: 309-35.

International Obesity Task Force (IOTF)., 2010. The Global Epidemic. Internet: http://www.iaso.org/iotf/obesity/obesitytheglobalepidemic/ (access 12 February 2014.)

Joint WHO/FAO Expert Consultation., 2003. Diet, Nutrition and the Prevention of Chronic Disease. Geneva, WHO. Internet: http://whqlibdoc.who.int/trs/who_trs_916.pdf (access 12 February 2012)

Keith, S.W., D.T. Redden, P.T. Katzmarzyk, *et al*., 2006. Putative contributors to the secular increase in obesity: exploring the roads less traveled. Int J of Obes (Lond), 30: 1585–1594. Internet: http://www.nature.com/ijo/journal/v30/n11/full/0803326a.html (access 12 February 2012.)

Must, A., J. Spadano, E.H. Coakley, *et al*., 1999. The disease burden associated with overweight and obesity. The Journal of the American Medical Association, 282(16): 1523-1529. doi:10.1001/jama.282.16.1523.

National Coordinating Committee on Food and Nutrition., 2013. Malaysian Dietary Guidelines for Children and Adolescents. Ministry of Health, Kuala Lumpur. Internet: http://www.moh.gov.my/images/gallery/Garispanduan/MDG%20Children%20and%20Adolescents%20Summary.pdf (access 2 January 2015.)

Pierce, J.W. and J. Wardle, 1997. Cause and effect beliefs and self-esteem of overweight children. J Child Psychol Psychiatry, 38: 645-50.

Richard, A.F. and L, Maureen, 2003. Total beverage consumption and beverage choices among children and adolescents. International Journal of Food Sciences and Nutrition, 54(4): 297-307. doi:10.1080/09637480120092143

Robinson, J.P., and G, Godbe., 1997. Time for Life: The Surprising Ways Americans Use Their Time. University Park, PA: Penn State University Press.

Sinha, R., G. Fisch, B. Teague, *et al*, 2002. Prevalence of impaired glucose tolerance among children and adolescents with marked obesity. N Engl J Med, 346: 802-10.

Story, M., D. Neumark-Sztainr and S. French, 2002. Individual and environmental influences on adolescent eating behaviours. Journal of the American Dietetic Association, 102(3): s40-s51.

Truswell, A.S. and L. Darnton-Hill., 1981. Food habits of adolescents. Nutrition Reviews, 39(2): 73-788.

Whitaker, R.C., J.A.Wright, M.S. Pepe, *et al*, 1997. Predicting obesity in young adulthood from childhood and parental obesity. N Engl J Med, 337: 869-73.