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The Predictors of Overweight and Obesity among University Students in Serdang, Malaysia

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SUMMARY

Being overweight or obese has become an increasingly common health issue involving individuals of all ages, particularly teenagers and young adults, and has become a burden globally. Furthermore, both were shown to increase the risk of many non-communicable diseases in later life. This study aimed to determine predictors of overweight and obesity among undergraduate students. The results showed that the predictors for overweight and obesity among university students residing in Serdang were the age of 24 years old and above, male gender, and Indian and Malay ethnicity. Hence, relevant health education interventions for weight reduction should include and focus on the targeted group.

Keywords

Overweight, obesity, non-communicable diseases, university students, Malaysia

INTRODUCTION

The prevalence of overweight and obesity has been increasing over the last 20 years and has become a public health concern worldwide. Being overweight and obese are predisposing factors for many non-communicable diseases in later life, such as type II Diabetes mellitus, cardiovascular diseases, hypertension and hypercholesterolemia, and certain types of cancer (1). Both conditions were previously perceived as diseases of a middle-aged group, but now the conditions have also affected an increasing percentage of young adults. Previous studies showed that young adults, particularly university students, seem to be prone to weight gain during their study years (2). Currently, there is a lack of studies conducted on young adults or university students in Malaysia, as most studies were conducted among the general adult population. Therefore, this study is proposed to examine the predictors associated with overweight and obesity among university students.

MATERIAL & METHODS

This was a cross-sectional study conducted among undergraduate students residing at the University of Putra Malaysia from September 2017 to July 2018. Three residential areas were randomly selected. The respondents from each residential area were selected by applying probability proportional sampling. Data for the study was collected using a validated and reliable self-administered questionnaire and anthropometric measurements (weight and height to calculate BMI). The data were analysed using IBM Statistical Package for Social Science (SPSS) version 23, and multiple logistic regression was used to determine the predictors. A value was set below 0.05. Independent variables in this study were age, gender, monthly household income, course, knowledge of physical activity and dietary intake, physical activity, dietary intake, smoking status, sleep duration, sleep quality, and stress.

RESULTS

A total of 494 respondents participated in this study. The response rate was 98.8%, and the prevalence of overweight and obesity was 38.1%. The predictors of overweight and obesity among the respondents were the age group of 24 years and above (AOR = 2.671), Malay ethnicity (AOR = 5.34), Indian ethnicity (AOR = 7.155), and male (AOR = 1.818).

Table 1: Descriptive analysis of sociodemographic and BMI characteristics among respondents in the study (n=494)

Independent variables		Median (IQR)	Frequency, n	Percentage, %
Age (years)	18-20	21(1)	110	22.3
	21-23		337	68.2
	24 and above		47	9.5
Ethnicity	Malay		379	76.7
	Chinese		76	15.4
	Indian		14	2.8
	Others		25	51.1
Gender	Male		145	29.4
	Female		349	70.6
Monthly Household Income	Less than RM2000	3000(3200)	127	25.7
	RM2000-RM3999		167	33.8
	RM 4000 and more		200	40.5
BMI	Underweight	21.64(5.69)	59	11.9
	Normal weight		247	50
	Overweight		113	22.9
	Obese		75	15.2
Study Course	Physical Education		42	8.5
	Engineering		110	22.3
	Biology		36	7.3
	Business Administration		27	5.5
	Environmental Study		86	17.4
	Food Technology		92	18.6
	Science Computer		101	20.4

Table 2: Predictors of overweight and obesity among university students in Serdang

Variable	β	SE	Wald	p - value	Adjusted Odds Ratio	95% CI	
						Lower	Upper
Constant	-2.465						
Age Group							
18-20 years old					Ref		
21-23 years old	0.321	0.239	1.801	0.180	1.379	0.862	2.205
24 and above	0.983	0.369	7.109	**0.040***	2.671	1.297	5.500
Ethnicity							
Others					Ref		
Malay	1.675	0.628	7.119	**0.080***	5.34	1.56	18.283
Chinese	0.619	0.681	0.826	0.363	1.858	0.489	7.063
Indian	1.968	0.829	5.637	**0.018***	7.155	1.41	36.311
Gender							
Female					Ref		
Male	-0.598	0.208	8.286	**0.040***	1.818	1.210	2.732

DISCUSSION

In this study, age 24 and above was a predictor, as the level of physical activity decreased with age, and it is believed that final-year students spent less time doing physical activities as they were more likely to devote more time to studying for final-year exams. The second predictor was male gender; this is similar to a few studies that were conducted among university students in 22 countries in 2014, which showed a significant association between males and overweight and obesity (4). This might be due to the fact that females have better health-seeking behaviours than males; hence, they choose lower-calorie foods and are more likely to engage in weight loss programs. Nevertheless, the final predictor was ethnicity.

From this study, Indians and Malays are 7 times and 5 times, respectively, more likely to be overweight or obese compared to other ethnicities. A 2014 study on the association between ethnicity and food intake showed that the types of dishes and ingredients, dietary taboos and restrictions, rituals, forms, and structure of meals all play major roles in determining what kind of food the family eats and eventually become part of their culture (5).

CONCLUSION

The predictors associated with overweight and obesity among university students in Serdang were those aged 24 and above, male gender, and Indian and Malay ethnicity. Hence, programs and policies should be directed to these high-risk groups as identified in this study.

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