

Quality analysis of the diet of 17 to 21-year-old students from 2 different educational institutions in Singapore

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Introduction

- Singapore is a growing economic hub with increased access and availability to cheap and energy dense food resulting in a rising trend in obesity among Singaporeans from 6.9% in 2008 to 10.8% in 2010
- The studies with regards to the dietary habits of tertiary students in Singapore are limited and need to be explored to discover the underlying causes of the obesity rates

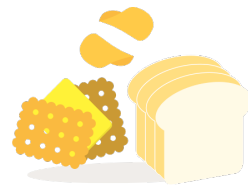
Aims

- The aim of the project is to critically analyse the diets of young people aged 17 to 21 studying in two different educational institutes in Singapore. Additionally,
- To examine if their diet abides by the recommended dietary guidelines set by Singapore's Health Promotion Board, and
- To find out if Gender, Educational institute or Ethnicity will have an impact on their diet.



Methodology

- There are 119 participants with 69 students from Polytechnic and 50 students from Institute of Technical Education (ITE)
- A dietary scoring system based on the healthy eating guidelines were used to grade the dietary habits of participants
- Chi-square tests were used to determine if there is a significant difference among the participants ($P\text{-Value} \leq 0.05$)



Results

Categories of scorers based on healthy eating guidelines

Criteria	Scorers			P-value
	Negative Scorers (n=20) (%)	Zero Scorers (n=48) (%)	Positive Scorers (n=51) (%)	
6-7 Servings of Rice and Alternatives	0 (0.0)	4 (8.3)	13 (25.5)	0.03
2 servings of Wholemeal and wholegrains	0 (0.0)	1 (2.1)	4 (7.8)	0.29
2 Servings of Vegetable	0 (0.0)	0 (0.0)	5 (9.8)	0.05
2 Servings of Fruits	0 (0.0)	2 (4.2)	5 (9.8)	0.32
2 Servings of Meat and Alternatives	4 (20.0)	18 (37.5)	32 (62.8)	0.08
Meets calcium guideline for respective age groups	0 (0.0)	1 (2.1)	5 (9.8)	0.18
Consumption of one or more flavoured or sweetened source of calcium	16 (80.0)	22 (45.8)	16 (31.4)	0.01
Consumption of sweets	1 (5.0)	3 (6.3)	0 (0.0)	0.16
Consumption of less than 2000mg of Sodium	4 (20.0)	16 (33.3)	26 (51.0)	0.23
Consumption of one or more deep fried food	16 (80.0)	17 (35.4)	6 (11.8)	0.0004

- Positive scorers met the requirements for rice and vegetables while negative scorers consumed more than one deep fried food.
- There were more ITE students that met with the requirements for rice and alternatives compared to the Polytechnic students ($P\text{-value} = 0.01$).
- Girls consumed more sweets compared to boys ($P\text{-value} = 0.04$).
- There were 45.4% of participants that consumed a sweetened source of calcium but only 5% met with the calcium requirements.
- There were no significant differences between the three ethnic groups.



Discussion

- The ITE students have slightly better dietary habits compared to the polytechnic students. This is in contrast to previous studies indicating there were more overweight students in ITE in Singapore (Foo et al, 2013).

- The positive scores of the ITE students are mainly due to rice and alternatives. However, these are mostly simple carbohydrate which might result in weight gain if they do not incorporate wholegrains into their diet.



- Girls consumed more sweets than boys which correlates positively with obesity when consumed in excess.
- Consumption of sweetened source of calcium also contributes to daily sugar intake despite providing a substantial amount of calcium.
- Deep fried food consumption seen in Negative scorers provides them with unwanted saturated fat which may cause cardiovascular diseases.

Conclusion

- The dietary habits of this sample of young Singaporeans are still far from optimal
- Healthy eating strategies should focus not only on fruits and vegetables but also on consumption of wholegrains, less fried food and unsweetened sources of calcium.

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