



Lat Jia Ling¹, Vaidehi Ulaganathan¹, Silambarasi Kuralneethi¹, Eng Zen Yang Eddie¹, Lim Lih Shiew¹, Grace Chieng Wei Ni¹, Divanirsh Devindran¹, Tan Lih Xuan¹, Oeh Zhe Yee¹

¹Faculty of Applied Science, UCSI University, UCSI Heights, 1, Jalan Puncak Menara Gading, Taman Connaught, 56000 Cheras, Wilayah Persekutuan Kuala Lumpur;

Introduction

Weight status is an effective indicator of identifying malnutrition among children[4]. Using dietary pattern approach, which considers a more comprehensive overview of the diet could provide more interpretable findings than studying single nutrients or foods since foods are not consumed separately[5]. However, studies on the association between dietary patterns and weight status is limited among Aborigine children. The **aim** of this study is to determine the association between dietary pattern and weight status of Aboriginal children in Negeri Sembilan

Methodology

Study Design	Analytical cross-sectional study
Study Location	3 aboriginal primary schools in Negeri Sembilan
Sample Size	296 children



Semi-quantitative food frequency questionnaire(SFFQ) was used to generate dietary pattern using principle component analysis.



AnthroPlus software: was used to calculate BAZ
IBM SPSS statistic software: analyse all the data

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Results

Two dietary patterns were identified :

Dietary Pattern	Eigen Value	Variance (%)
Staple Food	9.08	11.22
High Dense Food	2.54	9.72

The prevalence of overweight was 17.7% and obesity was 16.7%.



Fig.1: Percentage of student based on weight status

Children with high household income significantly had higher BAZ.

	Household Income (x ¹)				F	P-value
	≤RM499	RM500-999	RM1k-1999	≥RM2k		
BAZ	22.6	69.6	23.3	86.1	3.457	0.018*

Children aged 10-12 years old showed a significant higher adherence to staple food pattern as well as for high dense food pattern.

	Aborigine Children (x ¹)		t	P-value
	7-9 yrs old	10-12 yrs old		
Staple Food Pattern	42.43	73.57	3.20	0.002*
High Dense Food Pattern	274.5	494.8	-3.71	<0.01*

High adherence for high dense food pattern was significantly higher among children with household >5 members compared to household ≤5 members.

	Household Members (Q4)		Pearson Chi-Square	p-value
	≤5	>5		
High Dense Food Pattern	35.5%	64.5%	8.171	0.043*

Discussion

- What made them have staple food pattern are: (A) They are receiving government subsidy. (B) They are high food accessible power. (C) Their eating pattern is almost similar with other major community.
- What made them have high dense food pattern are: (A) They also already adapt urban eating pattern. (B) They also have accessibility for a fast-food place that not that far from their aborigine village.
- Higher household income and smaller household size have been reported to be associated with higher purchasing power and food affordability. As reported previously, the prevalence of obesity increased as household income level increased[1].
- Energy-dense foods tend to be convenient and easily accessed, and provide the cheapest options to satisfy hunger,[2] particularly in a remote context, while healthy foods can be in limited supply and at relatively high costs.[3] This energy-cost differential helps explain the persistently poor dietary patterns reported in this population.

Conclusion

Sociodemographic background plays crucial role in determining both dietary pattern and weight status.

References

- [1] Institute of Public Health (IPH) 2011. National Health and Morbidity Survey 2011 (NHMS 2011), Vol.2: Non-Communicable Diseases. Vol. 2. Kuala Lumpur; 2011. [2] Brimblecombe J, O'Dea K. The role of energy cost in food choices for an Aboriginal population in northern Australia. *Med J Aust.* 2009;190:549-51. [3] Ferguson M, O'Dea K, Chatfield M, et al. The comparative cost of food and beverages at remote indigenous communities, Northern Territory, Australia. *Aust N Z J Public Health.* 2016;40 Suppl 1:21-6. [4] Whyte Lian, C., Wan Muda, W. A. M., Mohd Hussin, Z. A., & Ching Thor, C. 2010. Factors Associated With Undernutrition Among Children in a Rural District of Kelantan, Malaysia. *Asia Pacific Journal of Public Health.* 24(2), 330-342. doi:10.1177/1010539510380737. [5] Tucker KL. Dietary patterns, approaches, and multicultural perspective. *Appl Physiol Nutr Metab.* 2010;35:211-8.