THE RELATIONSHIP BETWEEN TASTE PERCEPTION AND DIETARY INTAKE AMONG DIFFERENT ETHNIC SUBJECTS.

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INTRODUCTION

- Taste is one of the key factors to food intake that can further influence an individual's food choices and ultimately their dietary intake and health status.
- Taste perception are varying among ethnicities due to food consumption pattern and culture[1].
- Significant effect of ethnicity on perceived taste intensity and food intake have been observed in previous studies but there is a lack of research comparing among Malaysian population[2].

RESEARCH OBJECTIVE

This study aims to investigate the relationship between taste sensitivity and acceptance towards dietary intake among multiple ethnic subjects; Malays, Chinese, Indian and Bumiputera Sabah.

METHODOLOGY

Study design :Cross-sectional study
Sampling Method : Purposive sampling
Study Location : Kota Kinabalu, Sabah, Malaysia
Inclusion Criteria :, Aged between 25 - 45 years; Either Malays, Chinese, Indian or Bumiputera Sabah; Healthy
Exclusion Criteria : Pregnant or lactating, self reported food allergy and chronic diseases
No. of Subject : 86 subjects
Testing Method/ Tool : ***Sensory test*** 1. Sensitivity test, Intensity Rating and Hedonic Test[3], and 3-days food diary[4]
Data Analysis : SPSS software – 1 way ANOVA
Ethic approval : Medical Ethics Research Committee, FPSK, UMS – Approval Code: Jketika 3/21 (21)

RESULTS & DISCUSSION

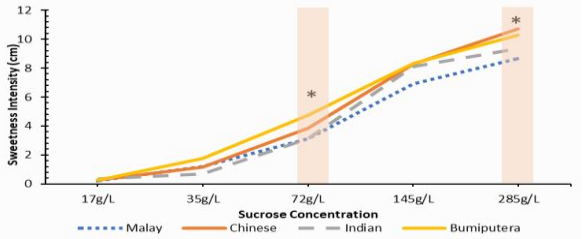

Figure 1 Means sweet suprathreshold rating of sucrose solution solution based on ethnicity; N=86

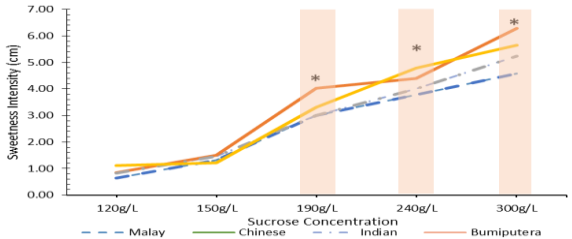

Figure 2 Mean sweetness rating of rose flavored pudding based on ethnicity at different concentrations; N 86

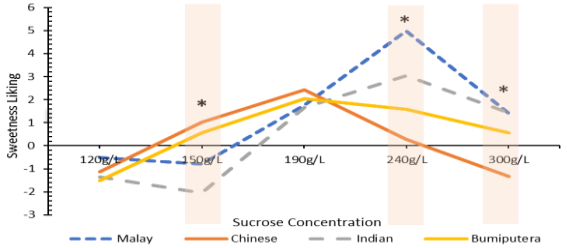

Figure 3 Mean liking rating of rose flavored pudding based on ethnicity at different sugar content; N=86

SENSORY MEASURES	SUCROSE CONC. (g/L)	ENERGY INTAKE (Kcal)	CHO (g)	FAT (g)	PROTEIN(g)
	17	*0.08 (0.30)*	*0.02 (0.44)*	*0.13 (0.19)*	*-0.06 (0.35)*
	35	*0.13 (0.18)*	*0.14 (0.16)*	*0.06 (0.34)*	*0.002 (0.49)*
Sweet	72	*-0.06 (0.35)*	*0.15 (0.16)*	*-0.11 (0.22)*	*-0.10 (0.25)*
Taste	145	*0.14 (0.17)*	***0.29 (0.02)****	*0.05 (0.36)*	*-0.05 (0.36)*
Sensitivity	285	*-0.12 (0.20)*	*-0.02 (0.46)*	*0.04 (0.40)*	*0.12(0.23)*
	120	-0.10 (0.24)	**-0.26 (0.04)***	0.02 (0.44)	0.09 (0.26)
	150	*0.14 (0.17)*	0.02(0.44)	0.23 (0.06)	0.10 (0.26)
Sweet	190	*0.12 (0.21)*	-0.08 (0.30)	0.09 (0.27)	0.26 (0.30)
Taste	240	*0.19 (0.09)*	0.09 (0.28)	0.22 (0.07)	0.35 (0.06
Acceptance	300	0.01 (0.48)	-0.14 (0.17)	0.24 (0.05)	**0.43 (0.01)***

r = Correlation value; p < 0.05
Data visualized as r value (p-value)
*significant at p<0.05

Table 1 The relationship between taste sensitivity and acceptance towards dietary intake among the subjects; N=49

DISCUSSION: There are significant differences on the taste sensitivity and acceptance among the ethnicities ($p<0.05$). However, the relationship between taste sensitivity and acceptance only found at high sucrose content samples among the samples for CHO and protein intake [5,6].

CONCLUSION

There are differences on taste sensitivity and acceptance among the ethnicities whereby Chinese showed higher sensitivity and lower acceptance at high sucrose concentration in food. However, taste sensitivity and acceptance did not affect subject's dietary intake. Future studies can be done by looking at food intake pattern among the population.

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