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MEAL PATTERN AND OBESITY
among Adolescents in urban area

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INTRODUCTION

The **prevalence of obesity** may have reached a plateau in some developed countries and become more complex and intractable in many developing countries.[1]

Poor diet patterns are found to be prospectively associated with an increased risk of adolescent obesity.

The **aim of this study** is to determine the association of having frequent meals towards obesity among Malaysian school-going adolescents in urban areas.[2]

METHODOLOGY

☑ This study used the data from **National Health Morbidity Survey (NHMS) 2017**, a nationwide cross-sectional survey that implemented a two-stage stratified random sampling design.

☑ Total of **23,463 adolescent** age between **10 to 17 years old** from the **urban area** were involved.
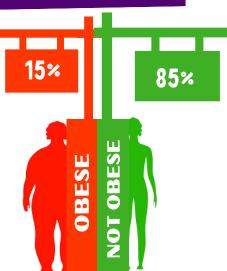
☑ **Meal patterns** are used to describe individuals' eating patterns at a different level of a meal including of breakfast, lunch, dinner, or a smaller-sized meal like supper or snack in a week.

☑ Complex samples **logistic regression** analyses were then performed to estimate the **odds of being obese** according to the meal type using the SPSS software version 25.

RESULT

OBESITY CHARACTERICTICS

297,462 estimated population of adolescents were **o b e s e** in urban Malaysia

15% OBESE
85% NOT OBESE

18.5% 11.3%

2,103 male adolescents with **187,471** estimated population **were obese**

1,393 f e m a l e adolescents with **109,990** estimated population **were obese**

Table 1: Prevalence of obesity by ethnic:

Ethnic	Prevalence
BUMIPUTERA SARAWAK	20.0%
MALAY	16.3%
OTHERS	16.2%
INDIAN	14.1%
CHINESE	12.6%
BUMIPUTERA SABAH	8.4%

Table 2: Factors association to the obesity among Malaysia urban adolescents

	UNADJUSTED			MULTIVARIAT ADJUSTED		
	ODDS RATIO	95% CI	P-VALUE	ODDS RATIO	95% CI	P-VALUE
MALE	1.776	1.578-1.998	p<0.001	1.851	1.645-2.083	p<0.001
FEMALE	1.000	reference		1.000	reference	
BREAKFAST	0.942	0.942-0.981	p<0.001	0.973	0.952-0.995	0.016
LUNCH	0.948	0.923-0.974		0.986	0.957-1.015	0.344
DINNER	0.933	0.908-0.959		0.944	0.917-0.973	p<0.001
SUPPER	0.963	0.943-0.983		0.949	0.929-0.970	p<0.001

Classification table 85%, Nagelkerke R square: 3.3%

DISCUSSION AND CONCLUSION

☑ This study showed that the **prevalence of obesity** among Malaysian urban adolescents was quite high with estimating of **1 in every 7 adolescents** found to become obese.

☑ Obesity was found to be higher among **males** and **Bumiputera Sarawak**.

☑ The study has **limitations** since it concentrated on the relationship between obesity and food intake effects without taking into account other possible causes.

☑ **Awareness programmes** and activities on obesity and healthy meal pattern need to be improved especially among primary and secondary students.

ACKNOWLEDGEMENT

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