

ASSOCIATIONS OF CARBOHYDRATE-RICH FOOD INTAKE AND DIABETES MELLITUS



RELATED KNOWLEDGE AMONG ADULTS IN KOTA KINABALU, SABAH

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INTRODUCTION

The prevalence of diabetes mellitus (DM) in Malaysia continues to rise over the past decade. Some reasonable factors contributing to high prevalence of DM in Malaysia includes excessive intake of carbohydrate-rich food intake [1] or poor knowledge related to DM [2].

RESEARCH OBJECTIVES

- Identify the intake frequency of carbohydrate-rich foods among adults in Kota Kinabalu (KK), Sabah.
- Identify and compare DM related knowledge scores among adults in KK, Sabah.
- Identify the relationship between intake frequency scores from whole grains, legumes, vegetables and fruits with level of knowledge related to DM among adults in KK, Sabah.

METHODOLOGY

- Study design: Cross-sectional study
- Study location: Kota Kinabalu, Sabah, Malaysia
- Inclusion criteria
 1. Aged 19-59 yrs
 2. living in KK, Sabah
 3. healthy, not suffering from chronic disease which affect carbohydrate intake
- Data collection
 1. **Questionnaire:** socio-demographic, diabetes mellitus related knowledge [3]
 2. **Food intake:** Food Frequency Questionnaire (FFQ) [4]
- Written informed consent was obtained from each subject before data collection

RESULT & DISCUSSION

1) The study included 309 participants, of which 228 (73.8%) were female and 81 (26.2%) are male.

2) Table 1 shows the intake frequency and score of certain carbohydrate source.

Table 1. Intake frequency and score

Type of Food	Intake Frequency						Score
	A	B	C	D	E	F	
White Rice	225	54	18	5	3	4	41.82
Sugar	63	68	39	34	44	61	18.83
White Bread	9	27	126	63	55	29	11.97
Banana	9	7	108	75	44	66	9.83
Sweetened Condensed Milk	11	34	61	47	23	133	9.09

Description: A = >1 a day, B = once a day, C = 3-6x/week, D = 1-2x/week, E = Seldom (<4x/month), F = Never

3) White rice recorded the highest score and intake frequency among study participants followed by sugar, white bread, banana and sweetened condensed milk.

Table 2. Correlation between level of knowledge related to DM and intake frequency for carbohydrate-rich food high in fiber

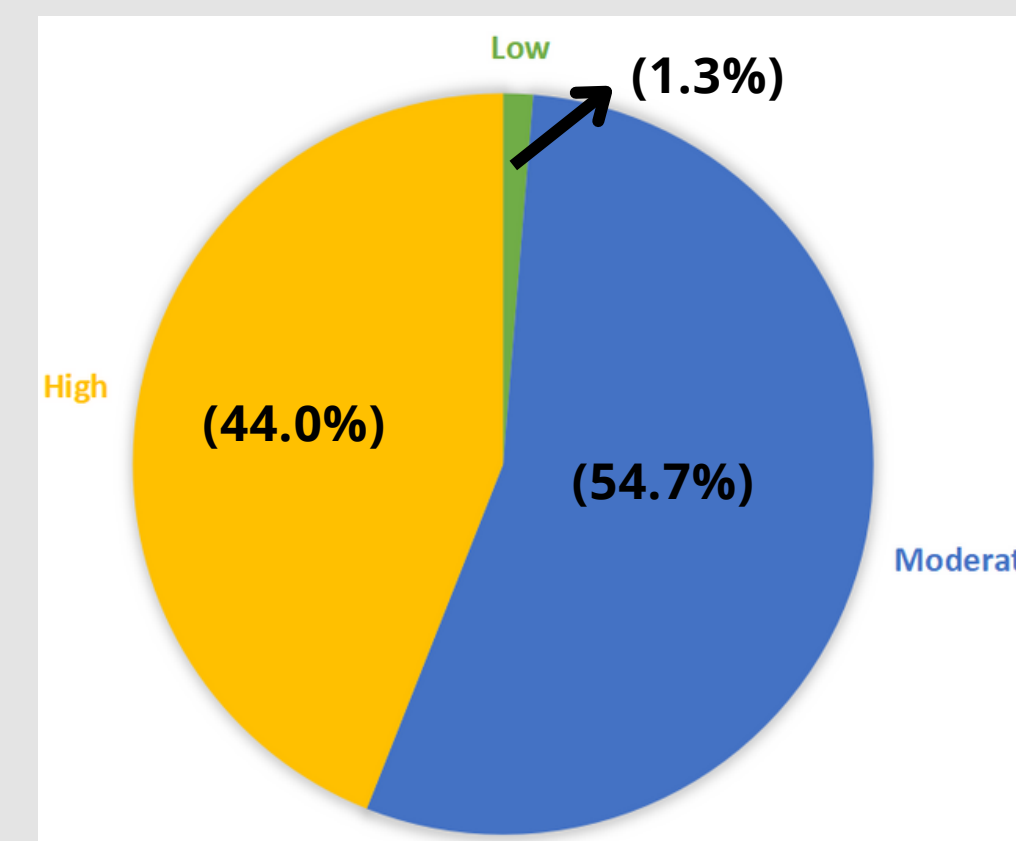
Level of DM related knowledge	r	p
Intake Frequency of Whole Grains And Legumes	0.173	0.002
Intake Frequency of Vegetables	-0.098	0.87
Intake Frequency of Fruits	0.0	0.0

** Correlation is significant at the 0.01 (2-tailed) level

4) Foods high in fiber such as whole grains, legumes, vegetables and fruits are recognized to reduce the risk of diabetes [5]

5) No significant correlation can be identify between level of knowledge related to DM and intake frequency of high fiber carbohydrates

Figure 1. Distribution of Level of Knowledge Related to DM



6) Majority of the participants had a moderate to high level of knowledge related to DM.

CONCLUSION

- Rice intake among adults in KK, Sabah is the highest among all carbohydrate source, of which majority consume rice more than once daily.
- Majority of adults in KK, Sabah have good knowledge related to DM.
- Correlation between level of knowledge related to DM and intake frequency of high fiber carbohydrates are not significant.

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