

**HIGH ENERGY AND FAT INTAKE
BETWEEN DORMITORY AND
NON-DORMITORY STUDENTS**

IN CHULALONGKORN UNIVERSITY, THAILAND

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Introduction

According to

“Thailand Nutrition Flag”



adolescent daily diets should have <2,000 kcal and contain <7 teaspoons of fat and oil.



Whitaker et al showed that

the averaged school lunch had

*** 35.9% of calories from total fat**

while the Dietary guidelines is 30%

*** 12.6% of calories from saturated fat**

while the Dietary guidelines is 10%.

Whitaker RC, Wright JA, Finch AJ, Deyo RA, Psaty BM. J Pediatr. School lunch: a comparison of the fat and cholesterol content with dietary guidelines. 1993;123(6):857-62.



Lin et al. reported that

a. foods obtained from fast food establishments

:- schools, restaurants, etc.

contained 40% of fat

b. the consumer has less control over portion size and nutritional content.

Lin, B. H., Guthrie, J. & Frazao, E. (1999) Nutrient contribution of food away from home. Frazao, E. eds. America's Eating Habits: Changes and Consequences 1999:213-242 U.S. Department of Agriculture, Economic Research Service Washington, D.C. Agriculture Information Bulletin No. 750.

Chulalongkorn University,
located in Bangkok,
one of the most famous
universities
in Thailand.

There are
> 15,000 students
attending from
different parts of the country.



Students who do not live in Bangkok must stay in university dormitories.

They usually eat all meals in dormitory cafeteria because of

- * lower prices

- * convenient purchases

although there are few choices of healthy menus.



Objective



The purpose of this study was to compare the high calorie and fat intake between the **dormitory** and **non-dormitory** students in **Chulalongkorn University**.



Method



☞ **Chulalongkorn University** students were randomly selected.

☞ **Weight** and **height** were measured for **Body Mass Index (BMI)** calculation.

☞ The dietary data based on **24-hour recall** were recorded on

* **Wednesday**, representing for a **school day**

* **Sunday**, representing for a **holiday**.

Method (cont.)



According to the recommendations outlined in **Food Guide Thailand Nutrition Flag**,

the students were classified as

a within-recommendation group :

< 2,000 kcal/day

<7 teaspoons of fat and oil/day

an over-recommendation group :

$\geq 2,000$ kcal/day “the high calorie group”

≥ 7 teaspoons

of fat and oil/day “the high fat group”

Method (cont.)



☞ the correlations of variables were analyzed
by *Pearson Chi-Square*

☞ the differences of means between groups
were compared by
the non-parametric Mann-Whitney U's test.

Results:



Table 1. Demographics of the students

	All (n=454)	Male (n=152)	Female (n=205)
Weight (kg)	55.11 (10.11)	63.55 (10.47)	51.23 (10.63)
Height (m)	1.65 (0.08)	1.73 (0.05)	1.61 (0.13)
BMI (kg/m ²)	20.23 (3.10)	21.30 (3.46)	19.73 (2.79)

() = S.D.



Table 2. BMI classification among subjects

	All		Male		Female		Dormitory		Non-Dormitory	
BMI class	n	%	n	%	n	%	n	%	n	%
Underweight ($<18.5 \text{ kg/m}^2$)	135	29.7	26	17.1	73	36.4	33	30.0	106	30.8
Normal ($18.5\text{-}24.5 \text{ kg/m}^2$)	277	61.0	98	64.5	118	58.4	67	60.9	185	53.8
Overweight ($>24.5 \text{ kg/m}^2$)	42	9.3	28	18.4	11	5.5	10	9.9	53	15.4



Table 3. calorie and fat intake of the subjects.

	All	Male	Female	Dormitory	Non-Dormitory
school day					
Calorie intake (kcal/d)	1562.30 (428.56)	1757.90 (454.66)	1473.02 (385.61)	1573.08 (474.17)	1560.99 (420.04)
Fat intake (teaspoon/d)	4.76 (2.40)	5.48 (2.56)	4.44 (2.25)	4.31 (2.32)	4.75 (2.40)
holiday					
Calorie intake (kcal/d)	1670.40 (474.85)	1840.80 (511.13)	1584.20 (491.74)	1529.36 (385.61)	1675.13 (385.61)
Fat intake (teaspoon/d)	4.76 (2.40)	5.48 (2.56)	4.44 (2.25)	4.31 (2.32)	4.75 (2.40)

() = S.D.

— = line between 2 variables that were significantly different with $p < .001$



Table 4. Numbers and percentages of high calorie and high fat intake students on school day and holiday classified by gender and residency.

Gender	Residency	High calorie intake		High fat intake	
		School day	Holiday	School day	Holiday
Male	Dormitory (n=68)	10 (14.7)	15 (22.0)	19 (27.9)	17 (25.0)
	Non-dormitory (n=84)	13 (15.5)	24 (28.6)	25 (19.8)	22 (26.2)
Total (n=152)		23 (15.1)	39 (25.7)	44 (28.9)	39 (25.7)

() = %



Table 4. Numbers and percentages of high calorie and high fat intake students on school day and holiday classified by gender and residency. (cont.)

Gender Residency	High calorie intake		High fat intake	
	School day	Holiday	School day	Holiday
Female Dormitory (n=42)	5 (11.9)	7 (16.7)	10 (23.8)	32 (76.2)
Non-dormitory (n=260)	28 (10.7)	44 (16.9)	40 (15.4)	33 (12.7)
Total (n=302)	33 (10.9)	51 (16.9)	50 (16.6)	65 (21.5)

() = %

———— = line between 2 variables that were significantly different with p=.018

Discussion



➤ the result unveiled that in dormitory **female** group, the numbers of students who consumed **high fat** on **holiday** were significantly different from those on school day ($p=.018$).

➤ This finding may be influenced by the **fewer choices of healthy food** in university cafeterias during holiday than school day since **some food shops closed**.

Discussion (cont.)



From these data , it was suggested that

- 👉 **a nutrition education programs that**
 - promotes** healthy eating behaviors,
 - better** food selection
 - negative effects of** high calorie and high fat consumption
- should be raised for university students.**

Discussion (cont.)



From these data , it was suggested that

👍 **The university cafeteria should provide**

- high quality

- more nutritive foods

because it is the **main food supply for**
dormitory students.

Conclusion



Male group:

◆ Male consumed higher calorie and fat than females.

◆ the number of dormitory and non-dormitory students who consumed high calorie and high fat diets were almost equal both on school day and holiday.

Conclusion: (cont.)



Female group:

- ❁ the number of dormitory and **non-dormitory** students who consumed **high calorie** diets on school day and holiday were **indifferent**.
- ❁ the number of the dormitory students who consumed **high fat** diets **increased on holiday**.

Thank you

ขอบคุณค่ะ



Thai food Low calories! Low fat !