Night-eating in Hong Kong adolescents: prevalence and associations with dinner habits, bedtime and weight status

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Background

- Night-eating defined as eating a light meal between dinner and sleep.
- However, night-eating, which may lead to extra caloric intake, is understudied.

Objectives

- Prevalence of night-eating in Hong Kong adolescents.
- Association of night-eating with dinner habits, bedtime, the interval between dinner time and bedtime, and weight status.

Methods

Statistics

- 24,885 students (age 15.1±2.0; 40.9% boys) from 42 schools in the Hong Kong Student Obesity Surveillance (HKSOS) project 2006-2007 were included.
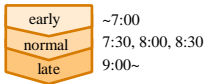
- Questionnaire:

YEAH 青少年教育與健康研究計劃
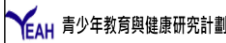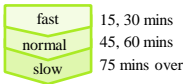
1) The number of days they had night-eating / week
e.g.

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
✔		✔			✔		**3**

2) Dinner habit (the usual time they had dinner and dinner speed)

Dinner time
- early ~7:00
- normal 7:30, 8:00, 8:30
- late 9:00~

Dinner speed
- fast 15, 30 mins
- normal 45, 60 mins
- slow 75 mins over

3) Bedtime during weekday and weekend separately

Bedtime
- normal ~11:00, 11:30
- late 12:00, 12:30~
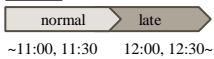
4) Intervals between dinner time and bedtime during weekday and weekend were calculated

Short(<4h)
Interval
Long(>=4h)
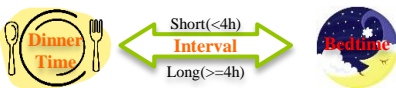
Only those reporting the same bedtime during weekday and weekend (4673 out of 24885) were included in the analysis of interval, as similar results were obtained using all subjects.

5) Weight status and BMI z-score were estimated based on self-reported weight and height.

Statistical Analysis

- Logistic regression models

- Multiple linear regression models

Adjusted odds ratios (AORs) and regression coefficients were calculated for associations with night-eating.

Results

1) Prevalence of night-eating

| 0 time (49.8%) |
| 1-2 time(s) (28.3%) |
| 3-7 times (21.9%) |

50.2%

2) Night-eating associated with early dinner time

Early	-
Normal	**11%** (6%-15%) **lower** odds compare to Early
Late	*Statistically not significant*

3) Night-eating associated with slow dinner speed

Fast	-
Normal	**30%** (22%-39%) **more likely** compare to Fast
Slow	**147%**(113%-187%) **more likely** compare to Fast

4) Night-eating associated with late bedtime

Weekday	Normal	-
	Late	**43%**(35%-53%) **more likely** compare to Normal
Weekend	Normal	-
	Late	**25%**(18%-34%) **more likely** compare to Normal

5) Night-eating associated with long interval from dinner time to bedtime

Short (<4h)	-
Long (>=4h)	**22%** (5%-42%) **more likely** compare to short

6) Night-eaters had **higher** BMI z-score (beta coefficient **0.204**; 95% CI 0.175-0.233) and were **13%** (95% CI 6%-20%) **more likely** to be **obese**.

Conclusions

Night-eating was prevalent (50.2%) in Hong Kong adolescents and associated with early dinner time, slow dinner eating speed, long interval between dinner time and bedtime, and late bedtime. Night-eating was also associated with obesity.

Funding