Age-dependent effects of breakfast skipping on Metabolic Syndrome related parameters

Midori Ichimaru, Kazuya Asahi, Akihiro Yonemoto, Masaomi Hokari, Kazuaki Sakata, Yoritaka Hamuro.

Ams Palace Building Clinic. Tokyo. JAPAN
Objective

• Higher prevalence of Metabolic Syndrome in Breakfast Skipper were studied. On the other hand, negative data were also obtained.

• To investigate, the hypothesis, we examined the relationship between breakfast skipping and biochemical and other lifestyle activities.

Methods

• Men(n:6532) and women(n:6540) aged between 22 – 81 were included.

• Anthropometric (Height, Weight, Waist Circumference), blood pressure and biochemical data (Blood glucose, cholesterol level, triglyceride, etc) were measured in our clinic between year 2013-2014.

• The subjects were classified according to age(20-29, 30-39, 40-49, 50-59, 60-), and breakfast taking. Life-style: Alcohol intake(6 levels), smoking, Physical activity(1,2 levels) were also asked by using questionnaire card.

• Chi-square analysis and t-test were applied to examine The Difference between BC and BS
Results

Comparison of Sex- and Age-related Prevalence(%) of Breakfast Skippers between Our Clinic and NHNES

The younger takes less breakfast compared to the older people. Our group shows higher breakfast skipping ratio compared to NHNES in all Age.

*NHNES: National Health Nutritional Survey
Obesity: BMI, Waist Circumference

- Male: B-Skipper showed higher BMI value in ages between 20-29yrs
- Female: B-Skipper showed higher BMI value in ages between 40-49yrs

Male: WC showed higher value in B-Skippers in ages between 20-29 yrs.

Female: WC showed higher value in B-Slippers in ages between 40-49 and more than 60 yrs.
Triglyceride, Fasting Blood Glucose (FBG)

Male: B-Skipper showed higher TG value in age between 20-39

Female: B-Skipper showed higher TG value in age between 30-59

Male: B-Skipper showed higher FBG value in age 20-39

Female: B-skipper showed higher FBG value in age 30-49 and more than 60 yrs.
**LDL-cholesterol**

- **Male:** B-skipper showed higher LDL-cholesterol in age between 20-59yrs.

- **Female:** B-skipper showed higher LDL-cholesterol value in age 40-49 yrs.
Association with night dinner, physical activity, and smoking

Women \( P < 0.05 \)

Skipped

\( P = 0.00448 \)
Conclusion

• Daily breakfast skipping (BS) in our clinic shows higher value than National Nutritional Survey in Japan.

• Depending on Sex and Age, BMI, Abdominal Circumference, triglyceride, and blood glucose level showed higher value in subjects skipping breakfast. HDL-cholesterol level showed lower value in breakfast skipping group.

• The breakfast skipping has some relation to night-time eating and less exercise level and showed strong risk for Metabolic abnormalities inducing Metabolic Syndrome.

• We should take the “when to eat” into account in nutritional assessment, education and health promotion.