

Title

Exploring Dietary Habits and Lifestyle for the Prevention of Menstrual Pain.

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Background and Objectives

In the recent years, the percentage of working women in Japan has been increasing annually, reaching 44.4% in 2019. Among women-specific health problems, **dysmenorrhea** and **premenstrual syndrome (PMS)** often reduce the quality of life of women at the reproductive age, leading to economic losses. However, the correlation between menstrual pain and a daily meal is still unclear.

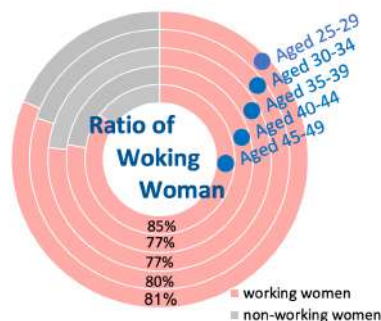


Fig 1. Ratio of Working Woman in 20s to 40s

The purpose of this study was to compare the **food and drink intake** and **lifestyle habits** of the groups with mild and severe menstrual pain, and to identify dietary habits to prevent menstrual pain.

Methods

Participant: 127 Healthy women aged 18–39 years old

Surveys:

- ▶ Brief-type self-administered diet history questionnaire (BDHQ)
- ▶ Body composition measurements
- ▶ Questionnaire surveys on menstrual status and lifestyle habits

Table 1. Back ground information

		Mean ± SD
Age	years	23.8 ± 7.42
Hight	cm	158.1 ± 5.71
Weight	kg	53.3 ± 7.75
Body Fat	%	29.7 ± 6.73
Body Fat	kg	16.1 ± 5.18
Lean Body Mass	kg	37.1 ± 4.62
Muscle Mass	kg	35.4 ± 3.31
BMI	-	21.3 ± 2.62
LMI	-	14.8 ± 1.47

We compared the nutrition intake of the two groups, divided by the level of menstrual pain. Mann-Whitney U-test and χ -square test were used, and the significance level was set at $p < 0.05$.

Keywords

Menstrual pain, n-6 fatty acids, Healthy woman

41.3% FEEL MENSTRUAL PAIN SEVERE

The subjects were divided into two groups:

Heavy

- ▶ Painful to the point of falling asleep
- ▶ Cannot spend time without painkillers

Light

- ▶ No obstacle in daily life
- ▶ Almost no obstacle

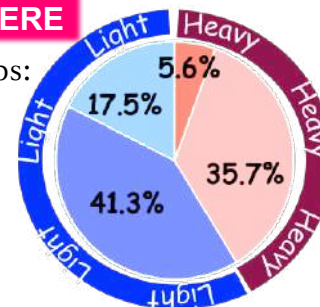
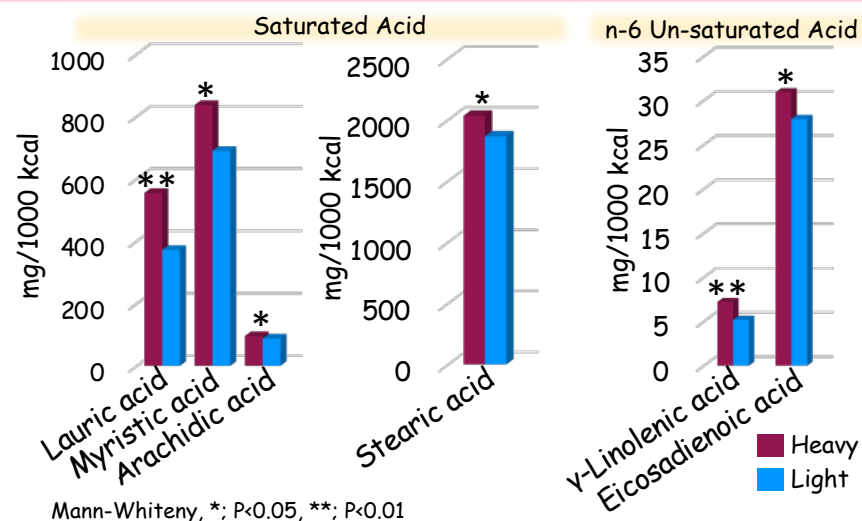


Fig 2. Do you have menstrual Pain?

FATTY ACIDS INTAKE & MENSTRUAL PAIN



Mann-Whitney, *, $P < 0.05$, **, $P < 0.01$

Fig. 3 Comparison of Nutrition intake

The heavy group consumed significantly more saturated fatty acids, especially lauric acid, myristic acid, arachidic acid, and unsaturated fatty acids, namely the n-6 unsaturated fatty acids, eicosadienoic acid, gamma-linolenic acid, and linoleic acid ($p < 0.05$). Excess fatty acids, especially n-6 fatty acids, might increase prostaglandin synthesis through the arachidonic cascade. On the other hand, saturated fatty acids may have promoted inflammation by activating macrophages.

Conflict of Interest

No conflicting interest is there in this study.

Results

MENSTRUAL PAIN & PREMENSTRUAL SYNDROME

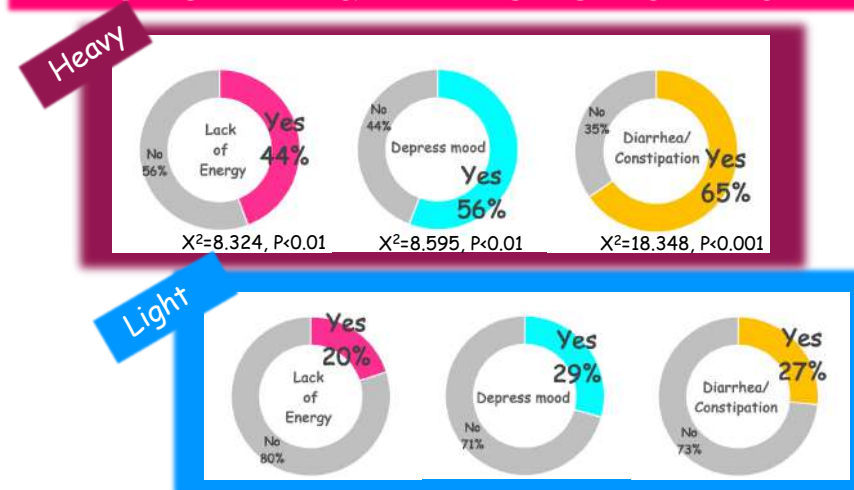
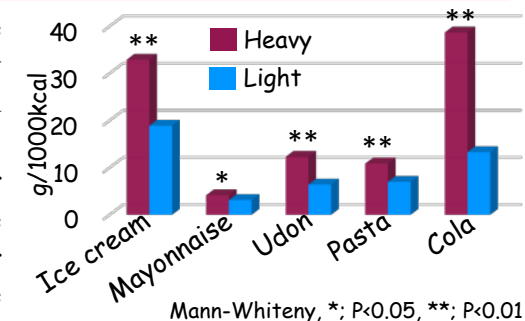


Fig. 4 Comparison of Premenstrual Syndrome
People with severe menstrual pain are significantly more likely to feel PMS.

DO SWEETS CAUSE OF MENSTRUAL PAIN?

The “Heavy” group ate significantly more fatty acid-rich foods and carbohydrate-rich foods. Carbohydrate or sugar intake might cause fluctuations in blood sugar levels, disturbing the autonomic nerves and chilling the body, leading to pain.



Mann-Whitney, *, $P < 0.05$, **, $P < 0.01$

Fig. 5 Comparison of food intake

Conclusions

In healthy women without the disease, the severity of menstrual pain was associated with n-6 fatty acids in a dietary recall study, which suggested that changing their daily diet could improve their menstrual pain.

Further Collaborators

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