Four weeks of chlorella intake increased VO_2max in young people who regularly undergo endurance training

We made this presentation at the 5th Academic Meeting of the Society for Chlorella and Functional Plants Research

[Study objectives]

According to the National Health and Nutrition Survey in 2019, 30.1% of men and 26.5% of women achieved the target vegetable intake (≥ 350 g/day), and the rate of achievement was reported to be lower particularly in younger generations. Our previous studies have reported that in young men and women who do not undergo endurance training, regular intake of chlorella satisfied micronutrients such as iron and vitamin B2 and increased the maximum oxygen uptake ($\dot{V}O_2$max), an index of exercise performance.

However, it is not known whether regular intake of chlorella increases the maximum oxygen uptake in young people who regularly undergo endurance training.

Therefore, we examined whether one-month chlorella intake increases $\dot{V}O_2$max in men and women who have regularly undergone endurance training for more than 2 years.

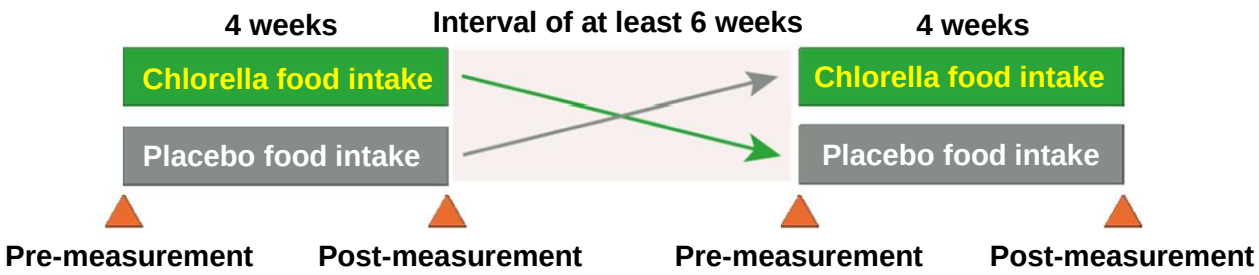
[Study method]

A cross-over, double-blind, placebo-controlled study was conducted in eight male and female members of a college track club who regularly undergo endurance training (5 days a week, for about 2 hours per session, intensity: moderate [60% to 80% HRmax]).

The test food consisted of 30 tablets (taken twice a day: 15 tablets a time). The subjects ingested chlorella food or placebo food (not containing chlorella) for 4 weeks with an interval of at least 6 weeks in a crossover manner.

The subjects underwent exercise tolerance test using a bicycle ergometer before and after the intake period of the test food, and the $\dot{V}O_2$max was measured using an expired gas analyzer. The exercise load was started with a warm-up of 70 W (50 W) for 4 minutes, and increased by 30 W (20 W) every 2 minutes (the load for women is shown in the parentheses).

Outline of study method

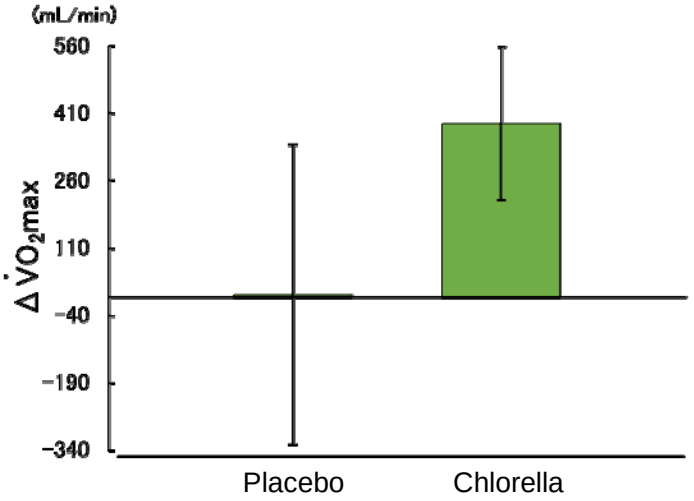


[Results]

The results of the cross-over, double-blind, placebo-controlled study showed no difference in the $\dot{V}O_2$max between the two groups before intervention with chlorella or placebo, but changes in $\dot{V}O_2$max increased after chlorella intake (Figure 1).

These results suggest that intake of chlorella for 4 weeks increases $\dot{V}O_2$max in young people who regularly undergo endurance training.

Figure 1 Changes in $\dot{V}O_2$max



<<Details>>

Academic soceity:	The 5th Academic Meeting of the Society for Chlorella and Functional Plants Research
Title:	Does chlorella intake increase the maximum oxygen intake in college middle and long-distance runners?
Authors:	Kaito Shiraishi[1)], Asako Zenpo[1,2)], Masaki Fujishima[3)], Eri Okumura[3)], Takeshi Otsuki[1,2)]
Affiliation:	1) Graduate School of Sports and Health Sciences, Ryutsu Keizai University 2) Faculty of Health and Sport Sciences, Ryutsu Keizai University, 3) Sun Chlorella Corporation

This information is presented in academic journals or conferences and is not intended to promote the marketing of products.

Contact link for this study report