Omega-3 Supplementation in Division I Track & Field and Cross-country Athletes: Physiological Markers of Omega-3 Status, Compliance, and Likeability

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INTRODUCTION

- Participation is college athletics presents as seemingly healthy; however, it may present potential health risks later in life.
- Most collegiate athletes are deficient in N3, requiring supplementation. A new type of N3 supplement, Enhanced Recovery™ (ER), claims to improve N3 index while addressing the current issues with traditional supplementation.

Purpose

- Determine if ER improves N3 status and enhances compliance compared to the current standard of supplementation for Division I Track and Field and Cross-country athletes during a competitive season.

HYPOTHESES

ER and the Control (CON; BiPro Protein Water™ + Nordic Naturals® Omega-3 soft gel capsules) would have similar effects on N3I status, and that ER would have a higher supplement compliance from greater likeability compared to the CON.

METHODS

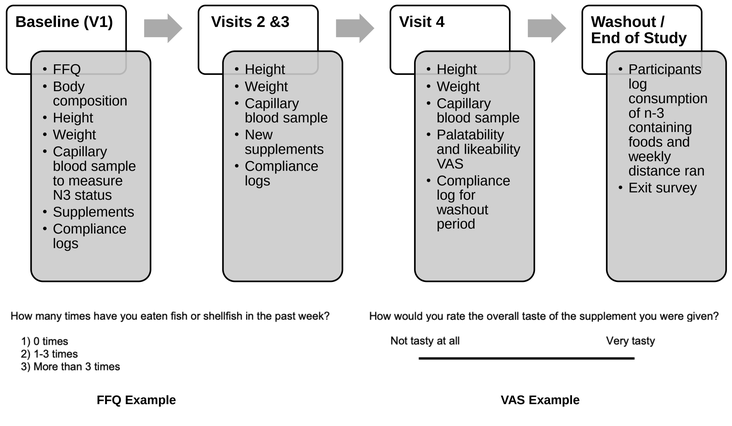
Study Design

- Randomized Control Crossover Trial

Participants

- 17 apparently healthy male and female NCAA Division I track & field and cross-country athletes from Texas Christian University (TCU)

STUDY TIMELINE



ER VERSUS CONTROL

Enhanced Recovery™ Supplement

BiPro™ + 1660 mg Nordic Naturals™

	Enhanced Recovery™	*BiPro™ + Nordic Naturals® – DHA Xtra*
Kilocalories (kcals)	250	110
Total Omega-3 (mg)	1600	1660
DHA(mg)	820	960
EPA (mg)	550	410
ALA (mg)	230	0
Protein (g)	20	20

Both Omega-3 treatments were equally effective at improving N3 status, and the first to identify factors that are associated with improved N3 supplement compliance in DI Track & Field and Cross-Country athletes during a competitive season. Overall, compliance decreased over time.

Practical Applications

Compliance can be increased by:

- Providing various types of supplementation to cater to athletes' preferences
- Perceiving effectiveness of the supplement
- Educating on the benefits of consistent N3 supplement use

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Human Kinetics
ORIGINAL RESEARCH

Improved Physiological Markers of Omega-3 Status and Compliance With Omega-3 Supplementation in Division I Track and Field and Cross-Country Athletes: A Randomized Controlled Crossover Trial

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RESULTS

Participant Characteristics

Variable	ER	Control
Age (y)	20.6±1.7	21.3±2.0
Height (m)	1.8±1.0	1.8±0.1
Weight (kg)	65.8±10.1	79.7±19.8
BMI (kg/m²)	21.2±2.0	24.8±3.4
Fat-Free Mass (lbs.)	122.2±26.6	137.2±30.8
Fat Mass (lbs.)	22.1±7.0	35.9±24.2
Body Fat (%)	15.8±5.6	19.7±7.8

Table 1. Participant characteristics at baseline. Values presented as mean ± SD. BMI, body mass index

Compliance

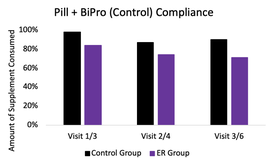

Figure 1. Figure represents compliance to CON (fish oil pills + BiPro) over time by group.

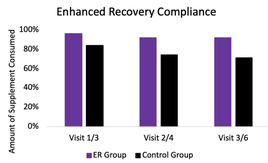

Figure 2. Figure represents compliance to ER over time by group. The ER group was more compliant than the control group. This may be because the ER group consumed the supplement in the first half the study.

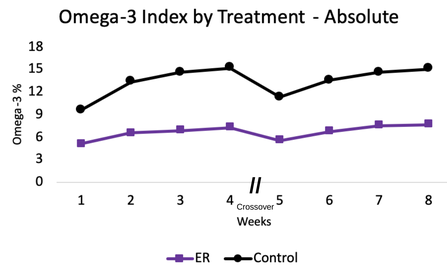

Figure 3A. Omega 3-Index increases by treatment. The washout period occurred between weeks 4 and 5.

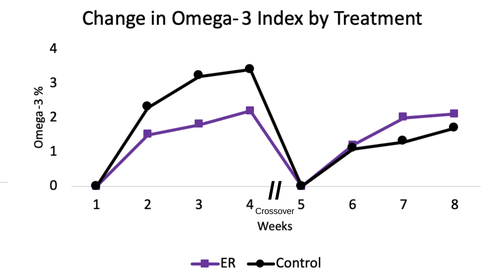

Figure 3B. Both treatments resulted in an increase in omega-3 index. The washout period occurred between weeks 4 and 5.

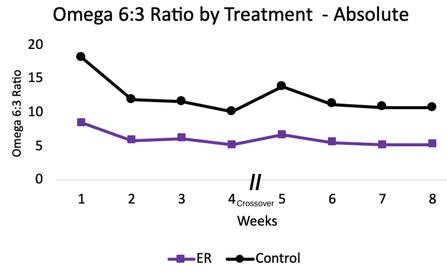

Figure 4A. Both types of supplementation reduced the omega 6:3 ratio of participants. The washout period occurred between weeks 4 and 5.

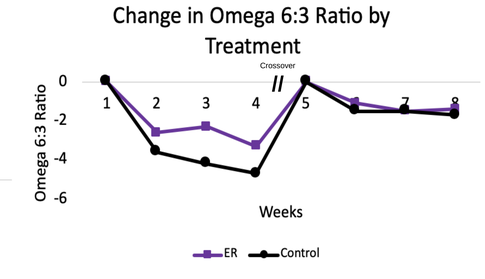

Figure 4B. The decrease in Omega 6:3 ratio is a positive response to supplementation in both groups. The washout period occurred between weeks 4 and 5.

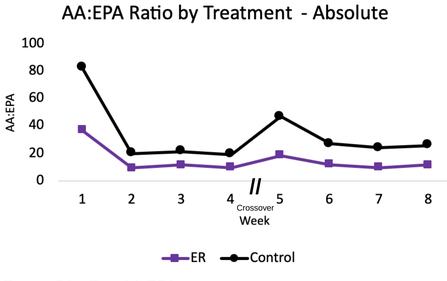

Figure 5A. The AA:EPA ratio improved as a result of taking either form of supplementation. The washout period occurred between weeks 4 and 5.

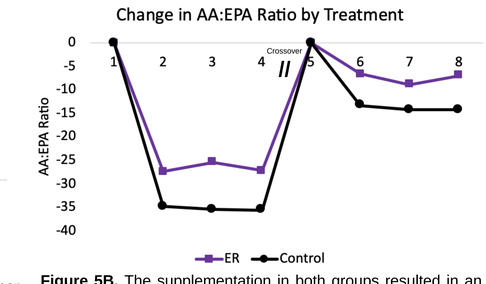

Figure 5B. The supplementation in both groups resulted in an immediate improvement (decrease) in AA:EPA ratio. The washout period occurred between weeks 4 and 5.