Nutrition Behaviors of Long Distance Runners

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Background
Nutrition is an important component of training in long distance running. Adequate nutrition enhances athletic performance by decreasing fatigue, decreasing risk of illness and injury, optimizing training, and increasing muscle recovery. Previous studies have indicated that long distance runners lack proper nutrition knowledge to implement adequate nutrition plans. However, limited information is available regarding the actual nutrition behaviors of long distance runners.

Objective
- To assess the nutrition behaviors of long distance runners.

Design
- Subjects completed a survey including a demographics section, a running history section, and a nutrition evaluation by a sports dietitian in regards to sports nutrition and runners who had not been evaluated by a sports dietitian.

Sample
- Sample: 447 runners
- Inclusion Criteria: 18 years of age or older
- Registered for at least one 2019 Donna race

Demographic Distribution
- Age: 18-77, mean=47 (35%)
- Height: 45-194 kg, mean=71 kg (36%)
- Weight: 143-188 cm, mean=160 cm (72%)
- BMI: 14.3-46.7, mean=24.8 (16%)
- Gender: 74% female, 26% male (89%)
- Race: N=1 American Indian-Native, N=17 Asian, N=6 White/Caucasian, N=18 Black or African American, N=16 Hispanic, N=383 White, N=3 Other
- Number of half marathons completed, 0-148, mean=11 (59%)
- Number of marathons completed, 0-36, mean=7 (16%)
- Years running, 0-50, mean=12 (28%)
- Previous running experience: N = 301 not decreasing intake on lighter than average training days and 42% of runners evaluated by a sports dietitian increase intake vs. 42% of runners not evaluated by a sports dietitian
- N = 251 not increasing intake on heavier than average training days and 56% of runners evaluated by a sports dietitian take post-workout supplements vs. 40% of runners not evaluated by a sports dietitian take post-workout supplements

Results
Supplement use and adjusting food intake differs between runners that had history of evaluation by a sports dietitian. Pre-workout supplements: 51% of runners evaluated by a sports dietitian take pre-workout supplements vs. 42% of runners not evaluated by a sports dietitian take pre-workout supplements. Intra-workout supplements: 55% of runners evaluated by a sports dietitian take intra-workout supplements vs. 40% of runners not evaluated by a sports dietitian take intra-workout supplements. Post-workout supplements: 42% of runners evaluated by a sports dietitian take post-workout supplements vs. 35% of runners not evaluated by a sports dietitian take post-workout supplements. Increase intake on heavier than average training days: 51% of participants evaluated by a sports dietitian increase intake vs. 42% of participants not evaluated by a sports dietitian increase intake. Decrease intake on lighter than average training days: 56% of participants evaluated by a sports dietitian decrease intake vs. 30% of participants not evaluated by a sports dietitian decrease intake. A majority of the sample do not adjust their food intake on heavier than average training days and lighter than average training days. N=251 not increasing intake on heavy training days (56%) N=301 not decreasing intake on light training days (67%) Runners with history of more years running had a greater incidence of not taking intra-workout supplements. No differences existed between adjusting intake on heavier and lighter than average training days among runners with minimal running experience and runners with vast running experience. Besides “other”, the most popular diet these runners follow is the Mediterranean diet. Diets: Mediterranean diet=35 Vegetarian diet=27 Ketogenic diet=25 Weight watchers=20 Vegan diet=18 Gluten-free diet=15 Paleo diet=10 Other=270 Hydration: Fluid ounces consumed on training days, on average=16-260, mean=63 Color of urine before training: Clear=115 Clear - yellow=270 Yellow=37 I do not monitor my urine color=22 Runners with history of completing more marathons were characterized by urine color of clear.

Discussion
- The findings from this study suggest that long distance runners are not following nutrition behaviors that enhance performance.
- Despite hydrating adequately, runners are not fueling properly.
- Differences existed between runners who had been evaluated by a sports dietitian in regards to sports nutrition and runners who had not been evaluated by a sports dietitian.
- No differences existed between adjusting intake among runners with minimal running experience and runners with vast running experience.
- However, runners with history of more years running had a greater incidence of not taking intra-workout supplements.
- There is a need to implement nutrition education among long distance runners to improve nutrition behaviors which may result in improved performance.