DIETARY INTAKE OF SPECIAL WARFARE COMBATANT-CREWMAN COMPARED TO SPORTS NUTRITION RECOMMENDATIONS

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SUMMARY AND CONCLUSIONS

Evidence-supported sports nutrition (SN) guidelines are based on requirements necessary to meet fuel/nutrient needs in order to maximize adaptations from daily hard physical training (PT). Special Warfare Combatant-Craft Crewman (SWCC) have similar training regimens to elite athletes and therefore may benefit from following SN recommendations. PURPOSE: To evaluate nutrient intake of SWCC compared to SN recommendations and identify suboptimal eating characteristics that impair physical performance and recovery. METHODS: A total of 126 SWCC (age: 26.8 ± 5.3 yrs; wt: 85.5 ± 9.5 kg, body fat: 20.0 ± 5.4%) completed a 24-hour diet recall (assessed using analysis software). RESULTS: Reported nutrient intake was 2,965 ± 1180 kcals/day, 150 ± 73 protein/day (PRO), 318 ± 146 carbohydrate/day (CHO), and 118 ± 59g fat/day. Fat intake >30% kcal was found in 71% of SWCC. Self-reported average daily PT was 99 ± 69 min/day of moderate to high intensity activity. CONCLUSIONS: Findings suggest SWCC do not consume adequate CHO to meet the demands of daily hard PT. Higher percentage of kcals from fat may be replacing those from CHO, compromising fueling and recovery. SWCC may optimize physical readiness, performance, and recovery by increasing consumption of CHO (whole grains, fruits, vegetables, and low-fat dairy). Future research should examine eating behaviors and barriers to consuming macronutrient profiles that will optimize the physical adaptations that occur with daily intense PT.

RESULTS

- Mean nutrient intake was 2.965 ± 1180 kcals/day, 150 ± 73 protein/day (PRO), 318 ± 146 carbohydrate/day (CHO), and 118 ± 59g fat/day.
- 71% of SWCC Operators reported a fat intake >30% of total calories.
- Self-reported average daily PT was 99 ± 69 min/day of moderate to high intensity activity.
- Compared to SN guidelines, 81% of SWCC did not consume the minimum goal amount of CHO to fuel 90 min of moderate to high intensity PT. 32% met the recommended PRO intake, with 23% not meeting the minimum amount of PRO (1.2g/kg body wt/day). (Table: 1)

SUMMARY AND CONCLUSIONS

- Findings suggest SWCC Operators are not consuming adequate CHO to meet the demands of their reported 90+ minutes of moderate to high intensity exercise daily.
- A higher percentage of kcals from fat and protein may be displacing those from CHO, which may compromise fueling and recovery from physical training.
- In order to optimize military readiness and performance, it is recommended SWCC Operators increase consumption of CHO from whole grains, fruits, vegetables, and low-fat dairy daily and during recovery periods.
- Future research should examine eating behaviors and barriers to consuming macronutrient profiles aligned with meeting the specific fueling requirements of SWCC Operators.

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ABSTRACT

OBJECTIVE: The purpose of this study was to evaluate food, fluid, and dietary supplement habits of Special Warfare Combatant-Craft Crewman (SWCC) Operators relative to training activities. METHODS: A total of 126 SWCC (age: 26.8 ± 5.3 yrs; wt: 85.5 ± 9.5 kg, body fat: 20.0 ± 5.4%) completed a 24-hour diet recall (assessed using analysis software). RESULTS: Reported nutrient intake was 2,965 ± 1180 kcals/day, 150 ± 73 protein/day (PRO), 318 ± 146 carbohydrate/day (CHO), and 118 ± 59g fat/day. Fat intake >30% kcal was found in 71% of SWCC. Self-reported average daily PT was 99 ± 69 min/day of moderate to high intensity activity. CONCLUSIONS: Findings suggest SWCC do not consume adequate CHO to meet the demands of daily hard PT. Higher percentage of kcals from fat may be replacing those from CHO, compromising fueling and recovery. SWCC may optimize physical readiness, performance, and recovery by increasing consumption of CHO (whole grains, fruits, vegetables, and low-fat dairy). Future research should examine eating behaviors and barriers to consuming macronutrient profiles that will optimize the physical adaptations that occur with daily intense PT.

METHODS

- Operators completed a detailed diet history questionnaire. The detailed diet history included questions pertaining to frequency of meals, meals eaten outside the home, caffeine/alcohol habits, and food/fluid intake before, during, and after physical training.
- Subjects were asked to complete a 24-hour dietary recall using the ASA24™ online software system, developed by the National Cancer Institute.
- Operators reported all food and beverages consumed on the previous day.
- The ASA24™ software led subjects through a self-guided/self-selected menu utilizing a multiple pass method to ensure all eating episodes, foods, and beverages were captured.

Table 1: SWCC Macronutrient Intake Compared to Sports Nutrition Guidelines

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Goal Amount (mean ± SD)</th>
<th>SWCC Mean Amount (mean ± SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbohydrate (g/kg)</td>
<td>3.8 ± 1.7</td>
<td>4.3 ± 0.3</td>
</tr>
<tr>
<td>Protein (g/kg)</td>
<td>1.2 ± 1.1</td>
<td>1.9 ± 1.2</td>
</tr>
<tr>
<td>Fat (% kcal)</td>
<td>&lt;30%</td>
<td>10.5 ± 8.3</td>
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</tbody>
</table>

INTRODUCTION

- Proper nutrition plays an important role in optimizing performance and recovery from daily rigorous physical training.
- The purpose of this study was to evaluate food, fluid, and dietary supplement habits of Special Warfare Combatant-Craft Crewman (SWCC) Operators relative to training activities.