Nutrition Education: What, by whom, for whom?

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Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs and habits. Education frequently takes place under the guidance of educators, but learners may also educate themselves. Education can take place in formal or informal settings and any experience that has formative effect on the way one thinks, feels, or acts may be considered educational.

Dewey, John (1944) [1916]. Democracy and Education. The Free Press. pp. 1–4.

We live in a world of plenty, with more than enough food to choose from. What influences which foods you decide to buy and eat? We choose foods for many reasons besides hunger. Personal taste, family preferences, cultural influences, emotional reasons, health concerns, societal pressures, conveniences, cost, variety and quantity all influence what we choose to eat. Although people are more interested in diet and health than ever before, health statistics tell a different story. We live in a complex food choice environment where we are faced with numerous daily choices of what to eat based on a complex information environment often supporting consumer bewilderment and concern.[1]

Nutrition education would therefore need to use of a combination of educational strategies and learning experiences appropriate for multiple influences on, or determinants of food choice and dietary behaviour to facilitate change. Knowledge is not good enough. Communication of food and nutrition information would need to enhance motivation and facilitate the adoption or maintenance of behaviours. Our predicament is that **people** want tasty food that are familiar, easy to prepare, good value for money and healthy. **Educators** supports an increased intake of fruits and vegetables, more whole and less processed grains, inclusion of a variety of food, eating less fat, sugar and sodium and balance food intake with physical activity. **Food systems** although supply basic foods in abundance, fast food high in fat, sugar and salt, sweetened beverages, large portions and low prices.[1]

Food Choice in Athletes

The role of nutrition in sport has been well established and athletes are often educated on specific recommendations to improve performance. However, in spite of education attempts, athletes still lack knowledge, and eat inadequate diets that could be detrimental to performance.[2] Nutrition knowledge and attitudes would be expected to relate to overall dietary intake, but seems not to exclusively influence dietary behaviour. Various factors contribute to the complexity of eating behaviour and adherence or lack thereof to principles, including athletes' anthropometric and performance needs.[3] Through various nutrition education attempts, athletes are required to deal with contradicting opinions from different information sources and a common desire to achieve quick results, rather than committing to long-term dietary changes. This could contribute to misconceptions about optimal nutrition.[4]

Athletes experience several barriers to optimal food choice, typical to their environment, namely a lack of time and a hectic schedule,[5-8] financial constraints,[5,7,8] unfamiliar food options whilst in foreign countries,[5] the lack of skills associated with making better food choices whilst eating out during travelling,[7] the lack of cooking and shopping skills,[6] poor nutrition knowledge and practical skills,[5,7] reduced food availability,[5,7,8] and appetite.[8] Motivators to dietary behavioural change include wanting to be thin,[9] the need to increase muscle mass, health, physical wellbeing and sport performance. Athletes also live in a unique relationship dynamic with parents, coaches and team mates that influences eating behaviours.[10]

Role of Nutrition Education[11]

The role of the sport dietitian as part of the interdisciplinary team includes the provision of evidenced-based nutrition education. True to athletes' nature of being high-energy individuals preferring competitions and physical tasks, education should encompass hands-on or visual activities, such as hands-on cooking classes, recipe discussions, menu analysis, etc. Social media engagement can further enhance athlete contact and maintain day-to-day awareness of eating behaviours. Apart from athletes, coaches and sports medicine staff, in their role as important nutrition resources, should also engage in nutrition education.

Nutrition education interventions for athletes would include:

1 Basic Nutrition Concepts

Athletes looking for a quick fix towards the competitive edge may be susceptible to nutrition fads and supplement marketing. They use a variety of nutrition information resources and may find it difficult to discern credibility. Education efforts should teach athletes to:

- Evaluate and utilize nutrition information
- Eat at regular intervals
- Monitor and maintain adequate hydration levels
- Have a healthy body image

Coaches should receive guidance on acceptable ways to discuss body weight with athletes and how to identify and refer at-risk individuals.

2 Basic Food Skills

Athletes should be able to fulfill basic food skills to support their dietary goals. They should be educated regarding:

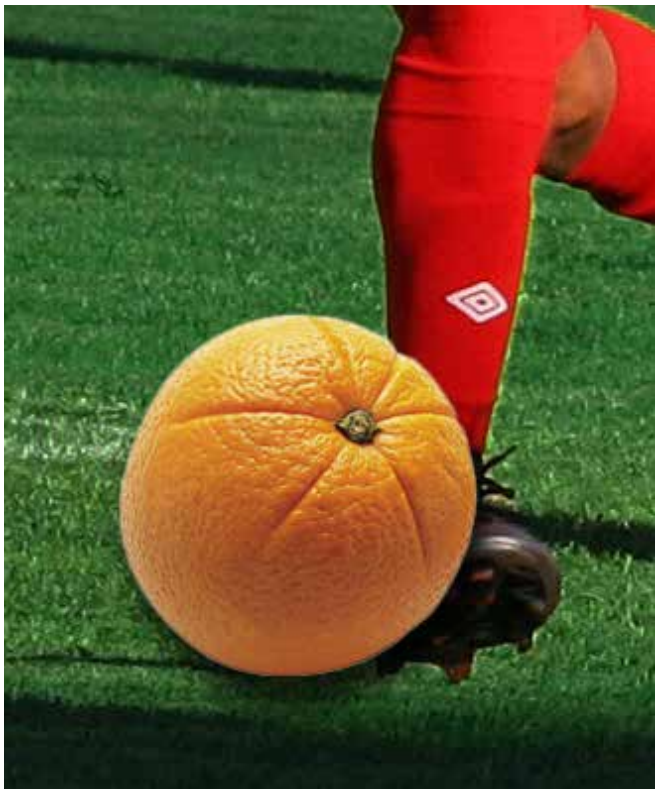
- Meal planning and grocery shopping
- Purchasing and preparing food in bulk to overcome the obstacle of time limitations
- Developing basic cooking skills to increase confidence in food preparation
- Increasing the nutrient content of meals
- Food safety to handle and store food safely

3 Performance Nutrition

Athletes do not need to be experts in food chemistry, but understanding basic nutrient functions is advantageous for performance nutrition. Teaching athletes how to plan ahead, pack their own snacks, and choose wisely at team meals whilst travelling can help maximize athletic performance on the road. Education should equip athletes to:

- Fuel before practice or competition
- Fuel during practice or competition
- Fuel recovery
- Understand nutrient interactions and functions
- Eat for performance while travelling

Staff members responsible for packing foods for practices or games should know how to ensure availability and timing of optimal food choices.



4 Performance Enhancement

An effective sports nutrition education program will discourage food fear, crash dieting, or other unsustainable eating behaviors, and foster gradual behaviour change throughout an athlete's career and beyond. Athletes should know how to:

- Optimize body weight and body composition
- Continue making gradual improvements in eating habits
- Use supplements safely
- Encourage younger teammates to fuel for performance
- Adjust nutrition for off-season or post-career

Coaches may require education about realistic body composition goals in relation to an athlete's position or event, frame size or genetics, physical maturation, time in the season, and semesters of eligibility remaining to make changes.

Who Should Educate about Food?

Athletes seek nutritional information from athletic trainers, strength and conditioning staff, coaches and fellow athletes. They further use the internet, commercials, magazines, parents and friends as nutrition information resources. A registered dietitian although have the skill to an individualized approach to aid in personalised nutrition goals. The approach would allow for culturally appropriate programs to assist athletes to build a healthy relationship with food and facilitate nutrition education programs that can be implemented into sport programmes.

Implementing science-based quality programmes can increase awareness and

reduce nutritional confusion for athletes, especially concerning skills, such as grocery shopping on a limited budget, basic cooking skills, nutrition time management, and healthy snacks.[12]

A dietitian will work as a member of the interdisciplinary team within sports settings to integrate nutrition effectively into the athlete's annual training and competition plan.[12]

Dietitians are charged with the task of contributing to their specific knowledge, but in a harmoniously integrated manner and in cooperation with other disciplines.[13]

Identifying Education Opportunities

NUTRITION AREA FOR EVALUATION	NUTRITION INTERVENTION TO CONSIDER WITH DIETITIAN
Basic cooking, shopping and planning skills	Grocery shopping tour including label reading skills Basic meal preparation and planning workshop
Optimizing daily training and recovery	Athlete nutrition and hydration protocol for before, during and after training and recovery after training Regular hydration testing in different temperatures and environments Food and fluid station at training and competition venue
Supplements	Athlete supplement inventory to assess team use On-going evaluation, communication and education about supplements
High nutrition risk travelling	Evaluate potential risks and nutrition issues Work out meal planning and logistics ahead of time Consider taking a sport nutrition professional with the team on long haul or high nutrition risk trips
Individuals with specific physique goals	Athlete will work individually with nutrition professional Coach to communicate the desired outcomes and allow a healthy and realistic time frame for these changes

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