

Practical Considerations in Applying Theory: How Can We Narrow the Gap Between Sports Science and Professional Practice in Sports Nutrition?

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INTRODUCTION

The importance of nutrition in sport has been reported since the ancient Olympians and its role in improving both health and sports performance has widespread acceptance. However, beliefs and knowledge can be extremely variable and it is not uncommon to find athletes following nutritional strategies that bear little resemblance to scientific evidence. It is perhaps difficult to understand why nutritional science is sometimes shunned in sport and even harder to rectify this situation. Drawing from my own experiences, I will attempt to explore some of the factors which I believe contribute to this less-than-ideal scenario within our sporting society.

ADVICE ON NUTRITION

While the role for nutrition might be appreciated in sporting circles, the provision of specialist nutrition services is still a relatively minor consideration when it comes to enhancing the performance of elite performers in the UK. Most athletes at some point in their career will admit to taking nutritional supplements in their quest to boost their health or performance, but few will be offered or actively seek support from a qualified sports nutritionist for individualised advice. Those that do will largely be the potential podium athletes supported by the UK Sport Institutes or, in select circumstances, the clubs and national governing bodies employing sports nutritionists. However, many organisations delegate nutrition responsibilities to other professionals, often fitness coaches or physiotherapists who have only a basic knowledge of nutrition and also lack the practitioner skills and expertise to effectively apply theory to practice. In reality, this means that there are a huge number of aspiring elite performers who never receive support that will allow them to implement unique nutrition strategies that will actually have a beneficial effect on their performance.

QUACKERY

Presently it is difficult for athletes and indeed coaches to recognise and source a qualified sports nutrition professional and so it is commonplace for nutritional information to be accessed from less reliable sources such as quacks, magazines, websites, and the marketing propaganda of numerous supplement companies. Celebrities and other athletes are also highly influential as role models, because food is a subject that everyone can talk about with

some degree of personal experience and because ‘diet books’ are easy money spinners. Consequently, evidence-based nutritional science is frequently undermined or usurped in favour of flamboyant nutritional fiction. The reasoned and balanced approach of qualified sports nutrition professionals has to compete with the ‘hard sell’ of unregulated quackery and the power of celebrity status and hero-worship.

UNCRITICAL ACCEPTANCE OF SUPPLEMENTS

Myths are also fuelled by the billion-dollar supplement market. It is commonly assumed that, even if unnecessary, supplements will not do any harm and with ‘more’ often considered to be better than ‘less’, athletes may take high dosages in complete ignorance of the potential adverse effects on both their health and performance. Use of supplements is often seen as an easy alternative to dietary change and for most is more accessible than seeking professional advice and involves far less effort than changing eating habits. In spite of well publicised advice from UK Sport [1] to be cautious about supplement use and to adapt diet first (primarily to avoid unnecessary doping offences though product contamination), athletes frequently find themselves persuaded to take them. Indeed in a fairly typical recent consultation, of the supplements he could identify, a top athlete reported taking at least eight high dose individual vitamins and minerals daily with little knowledge of why he was taking them and with no consideration of potential contamination and adverse effects. He said that he wasn’t particularly keen to take them, but his coach told him to.

HIGH PROTEIN INTAKE

Although the evidence for the use of protein supplements is virtually non-existent, their use continues to be widespread in sport. The literature is controversial about actual requirements for protein [2], but there is general agreement that normal foods can supply adequate protein to support the needs of all types of athletes and all types of training. Furthermore for most individuals, protein in the diet is already consumed in excess of requirements [3-5]. One of the most common misconceptions in sport is the need for a high protein intake for gains in strength, speed and power [6]. Advocates of high protein diets may consider them to be harmless, but adverse effects reported include impaired appetite [7], reduction of bone mineral density [8] and loss of lean body mass when a lower protein intake resumes [9]. Athletes should at very least be concerned about displacing other essential nutrients in the diet, particularly carbohydrate – depletion of which will limit the performance of athletes in regular training [10, 11].

DIETARY CONVENIENCE

Many well publicised advances in sports nutrition research focus on the use of fluids and sports drinks, supplements and ergogenic aids; and there is a corresponding lack of research into nutritional strategies that focus on ‘food’ and combinations of nutrients present in food that reflect the way that people eat and train. Dietary manipulations are comparatively difficult to investigate, few are reported, and so food appears mundane and ordinary and less ‘cutting edge’ than more intensely researched powders, pills and potions. Indeed research into food applications is sometimes contradictory, often confusing, and difficult to apply. For example, glycaemic index can be a useful way to categorise carbohydrate rich foods for research purposes, but it is an impractical concept to apply as it is dependant upon the amount consumed, methods of storage, processing and cooking, and other meal components [12]. It is perhaps not surprising that the athlete with a hectic training schedule favours less confusing and more convenient ways to enhance performance, but such scenarios only

demonstrate the role of and the need for experienced and skilled practitioners to ‘do the nutrition’ and provide consistent guidance in sporting organisations.

RISK ASSESSMENT

It is rare for athletes to embrace scientific facts and undertake a comprehensive risk assessment before trying out something new. The elite athlete can be likened to the chronically ill patient who is desperate to look for a cure. In a similar fashion, many aspiring athletes will be prepared to take a risk where there is controversy or doubt. Results that are statistically insignificant but show even a small trend towards benefit may be viewed as worth trying – what is insignificant in a scientific paper may transform to significant results in the field. Some athletes will go against the weight of evidence in an attempt to gain an edge on their competitors by doing something different while others will follow the trends of those who have success. Either way, nutritional science often has little bearing on practice.

ATHLETES’ SKILLS AND RESOURCES

There are a whole range of practical difficulties for athletes who do wish to engage in evidence-based practice and these include having basic skills and resources to implement strategies. Many athletes have to juggle intense training and competition schedules with studying, family commitments and travel; while adequate funds for food remains a concern for some. Time for shopping and cooking is often limited and poor cooking skills can impose a further burden. Nutritionists and performance-lifestyle advisors may work extensively with some groups and individuals to address these issues, but again support is variable. Few restaurants and eating outlets – even those in or close to training centres – offer fresh, tasty food suitable to meet the nutritional needs or training schedules of elite performers and there are no recognised courses or qualifications in nutrition for catering staff in sporting venues.

EATING HABITS ACROSS THE LIFESPAN

It is well established that eating habits adopted in childhood become lifelong habits influencing food choices and eating behaviours as adults. So it makes sense to engage young performers in fun and practical activities that develop knowledge, skills and behaviours appropriate to future athletic success and at the same time educating their parents and updating coaches. It is considerably easier to progress the dietary strategies of a well informed adult athlete able to cook and shop than it is to start from square one with an athlete who holds misconceptions, little knowledge or practical skills, and limited time to correct established bad habits. Growing up with a sound knowledge and with competent practical skills may mean that we lose less, and have a greater pool of, potentially successful athletes who are able to make better decisions, challenge bad practice, and are less vulnerable to the seduction of marketing, fashion and fads in the ‘nutrition’ industry.

REGULATION

It is also long overdue for sports nutrition services to be regulated and provided by ‘kite-marked’ professionals so that coaches and athletes know what to look for and how to source a competent sports nutritionist. In the UK, the Nutrition Society, the British Dietetic Association and the British Association of Sport and Exercise Sciences have begun to address this lack of regulation by developing the Sport and Exercise Nutrition Register, which requires a rigorous demonstration of competency by its registrants. However, it has yet to be recognised and adopted in most sporting circles.

CONCLUSION

I don't pretend to have a magic wand to wave – it will be some time before the supplements industry is regulated and their marketing claims curtailed and even then some athletes will still take unnecessary and potentially dangerous products – but I do believe that there is a lot to be gained from firmly placing nutrition as a core service within sports science and medicine throughout elite sport and in particular by supporting performers in youth sport. Only when qualified sports nutritionists, undertaking peer-reviewed practice to regularly prove competency, are working extensively across sports in collaboration with coaches and parents, other science and medicine professionals, and catering services, will the rogue element and mixed messages start to die out and nutritional science be comprehensively put to the test.

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