

Taking One for the Team - Coaches, Athletes, and Dietary Supplements

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Article:

Introduction

With an increased emphasis on nutrition as a factor in disease prevention and health promotion, dietary supplement use among the United States population is growing (ADA, 1994, 1998.) Medical evidence suggests only certain subgroups of people need dietary supplements, for example, increased iron needed for pregnant women, special formulas for infants and small children, folate for women of child bearing years, and calcium for adolescent girls and young women. Yet, many people self-prescribe dietary supplements for various reasons including concern about the adequacy of their diet, a desire to be healthier, or to treat or prevent an illness (ADA, 1994).

Dietary supplement use is a well-documented practice among adult and adolescent athletes. In an exhaustive review of the literature, Sobal and Marquart (1994) examined all existing studies of the prevalence and patterns of dietary supplement use among athletes. A meta-analysis of 51 studies provided data on 10,274 male and female athletes, with a dietary supplement use prevalence rate of 46%. Among athletes, adolescents are a key target market of the dietary supplement industry (Cowart, 1992; Friedl et al., 1992; Lightsey & Attaway, 1992; Pearl, 1991). Claims of increased energy, improved performance, and gains in muscular strength appeal to this population (Grunewald & Bailey, 1993; Philen et al., 1992). However, time and again the efficacy of these claims has been shown to be unsupported under scientific scrutiny (Barron & Van Scoy, 1993).

In recent years, the Food and Drug Administration (FDA) has proposed stricter guidelines to ensure the safety and efficacy of these products. The FDA admits there are no guidelines established to test dietary supplements before they are placed on the market as these products are currently recognized as neither traditional food nor drug (FDA testimony, March 20, 2001). According to the FDA, the vast majority of dietary supplements have not been subject to stringent testing standards, and deaths have resulted from hypertoxicity, allergic reaction, abuse (Kamb et al., 1992), and disability including hospitalization (Barron & Van Scoy, 1993; Friedl, et al, 1992; Pearl, 1991; Ropp, 1992; Slavin, et al, 1988). The lack of regulated testing standards has resulted in ingredients such as ecdysterone, an insect hormone with no known use in humans; levodopa, a prescription medication; and animal glandular material being found in dietary supplements (Philen, Ortiz, Auerbach, & Falk, 1992).

Over 6 million adolescents participate annually in school sports (NFHS, 2001). From a clinical standpoint, these athletes are at no risk for nutritional deficiencies, nor warrant the use of these products for medical reasons, but data show that adolescent athletes use supplements higher than the national average for all adolescents. Very little is known about the initiation process of these substances, influences, or attitudes and beliefs towards supplements. Recent research on young athletes and dietary supplements show the coach as a strong influence to use/not use these products (Perko, 2000; Bartee, 2000; Dunn, 2002).

Hey Coach, Does This Stuff Work?

On any given day, any number of young athletes in schools and on the playing fields are holding up advertisements for dietary supplements and asking "Hey coach, does this stuff work?" Even though a number of professional sports stars can be found extolling the benefits of dietary supplements, recommending or advising

these products in the role of physical/sport educator is not without consequences. Clark, Nathan, and Sees (1988) state that dietary supplements occupy a nonthreatening position in the mind of the average person. However, the ready availability and apparent harmlessness of these products may be deceptive and can create potential medical and legal ramifications for nonphysician prescription. Take the following scenario - an athlete comes to a sport educator with a specific complaint, ie: "Coach, I can't gain weight, and I'm tired all the time" and is in turn recommended to take dietary supplements to gain weight, and increase energy. No big deal? Although each state's medical licensing board defines the practice of medicine within that state, some may say the sport educator has come dangerously close to practicing medicine without a license. By recommending a product based on symptomology, they have "diagnosed and prescribed" a treatment. Furthermore, any recommendation made without knowing a person's medical history can be disastrous. Case in point; in 1997 a female client was given a list of dietary supplements to take by a trainer at a local gym. Unknown to the trainer was the client's high blood pressure. She died as the result of a stroke brought on by a combination of high blood pressure and Ephreda, an ingredient found in one of the dietary supplements she was recommended. Her husband has sued the gym, the trainer, and the dietary supplement company for \$320 million dollars (Hooper, 1999).

But what's the big deal, really? These products are legal, bought at any supermarket, druggist, or gas station. In fact, the dietary supplement market has been a tremendous growth industry for the last ten years. In 1992, approximately 3,400 unique, non-prescription dietary supplement products were produced by 600 manufacturers with retail sales of roughly 3.3 billion dollars annually (FDA, 1992). In 1996 alone, consumers spent more than \$6.5 billion on dietary supplements according to Packaged Facts Inc., a market research firm in New York City (Kurtzweil, 1998). Just two years later consumers spent \$12 billion on dietary supplements according to Nutrition Business Journal in their September, 1998 Annual Industry Overview. Business is so good that General Nutrition Centers (GNC), one of the world's leading outlets for dietary supplements anticipated opening 788 stores worldwide in 1999 - that would have been a new store every 12 hours. (PR News Wire, 3/02/1998.). Television, magazines, and the Internet are replete with advertisements for specific formulations to lose fat, gain muscle, increase protein, and supercharge energy. Many coaches are still actively engaged in athletic competition and take supplements in an effort to gain an edge, recover faster, or improve performance. They may talk openly about taking product X to others, including their players. Is this a breach of professional ethics? It's not like they were taking steroids or other drugs. Shouldn't coaches advise and monitor their athletes potential and give them any advice they can to help them improve? Unfortunately, when it comes to nutrition practices, research shows that coaches are not the best resource. Parr, Porter, & Hodgson (1984) found that 61% of the coaches in their study (n=384) had no formal background in nutrition, felt fluid intake to be the #1 nutritional concern of athletes. Graves, Farthing, Smith & Turchi (1990) reported that while 53% (n=154) of high school coaches in N.C. scored a 59% on a nutrition knowledge test, 57% answered correctly regarding adolescent nutrient needs, 49% answered correctly regarding nutrient supplementation, all 53% felt primary responsibility for nutrition information. Spear, et al., (1994) surveyed 425 high school coaches in Alabama about their knowledge, attitudes, and beliefs about nutrition. Results showed 59% of the coaches failed to correctly identify the four food groups, many felt fruits and vegetables were two separate foods groups, as were meat and fish, 32% recommended high protein diets/supplementation to athletes, and had gotten this information from popular health & fitness publications, 49% did not know that excess protein could cause kidney damage, 62% instructed athletes to take vitamin/mineral supplements, again from information from popular magazines. Sossin, et al., (1997) surveyed 311 high school wrestling coaches - 45% rated themselves knowledgeable about weight loss, 36% rated themselves knowledgeable about sport nutrition, 17% rated themselves knowledgeable about vitamin/nutritional supplements, 88% used magazines as their #1 resource, while 55% consulted either a dietitian, nutritionist, or exercise physiologist.

So where should coaches stand on this issue? Should they digress on nutritional practices, including using dietary supplements, since nutrition is such an integral part of athletic success and because they may take these products themselves? After all, as has been stated before, it's not like these products are steroids - they are available in just about any store. Or do they take into consideration the lack of standards and testing for these products? What is their role as a sport educator?

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