



## SPORTS NUTRITION

**Minoo N.**

Assistant Professor, Vasantrya Naik Gov. Institute of Arts and Social Sciences, Nagpur (M.S) India

### Abstract:

#### Introduction:

#### **Eat Right To Play Right**

It is to be said that 'a sound mind lives in a sound body.' As the title suggests, this paper aims at providing information on sports nutrition. What you put into your body does affect your energy level. Nutrition needs to be a priority of a player's training. What you eat daily, weekly, and monthly will affect your energy level, performance and overall health. Energy in means energy out! It is so important that a player eats a well balanced diet high in complex carbohydrates, and low in fats which will help them to maximize their energy levels and perform at their optimal levels. Proper nutrition not only benefits any player physically, but also mentally and that's half the battle on the field. If the brain is not well fed, then the player will not play to the best of their ability. Without the right food, a player can suffer from the inability to concentrate, lethargy, having visual problems, muscle cramps, dizziness and even passing out.

According to Matt Dwyer, a consultant, the primary difference between the diet of Indian athletes and Australian athletes is that the Indian athlete consumes proportionally more carbohydrate and fat and less protein when compared to the Australian athlete. These are his observations from working with hundreds of Indian athletes. Unfortunately there is minimal scientific research that has been conducted in to the diet of Indian athletes. The research undertaken to date however suggests that Indian athletes have a poor understanding of nutrition (2, 3, 6), insufficient protein intake (3), insufficient

iron intake (1, 3, 4, 5) insufficient calcium intake (4) and insufficient B-complex vitamins (1). However these studies are limited in their methodology with most utilizing dietary recall as well as covering training camp periods where the food is supplied to the athlete.

When advising Indian players on their diets Dwyer typically classify them in to three categories:

1. Non-vegetarian - eat everything
2. Vegetarian (lacto vegetarian) - do not eat any meat
3. Pure vegetarian (lacto-ovo-vegetarian) - same as vegetarian but also do not eat eggs.

The challenges for the Indian athlete is for those who are vegetarian or pure vegetarian. Non-vegetarian players who eat meat on a daily basis generally do not require additional protein above what they get from their diet. However one observation Dwyer has made of Indian non-vegetarian players is that, for multiple reasons, they often do not eat meat any more than once or twice a week and therefore are really vegetarian in their dietary practices. As a result the vast majority of Indian athletes are really vegetarian.

Vegetarian diets are associated with a number of health benefits: lower risk of death from heart disease, lower low-density lipoprotein (LDL) cholesterol levels, lower blood pressure, lower rates of Type 2 diabetes, lower body mass index, and lower rates of cancers. However the avoidance of meat and other animal products alone does not explain these health benefits. The primary dietary factor that likely confers these benefits is the increased consumption of whole plant foods (fruits, vegetables,

whole grains, seeds, nuts, beans) and associated beneficial nutrients – fibre, antioxidants, vitamins and minerals, and phytochemicals.

Despite having a number of health benefits as outlined above, there are three primary limitations of the Indian diet for athletes:

1. Insufficient vitamin and mineral intake. The limited research undertaken to date suggests that Indian athletes are particularly vulnerable to inadequate iron, calcium and Vitamin B12. Theoretically this makes sense as the primary sources of these micronutrients are from animal products.

2. Inadequate protein intake. The protein foods that vegetarian athletes eat can be difficult to eat in large volumes due to their fibre content (e.g. sprouts) and the satiety effect of protein, or are energy dense (e.g. nuts) making them not ideal to eat in large quantities to maintain appropriate body composition. This is particularly the case for pure vegetarian athletes who need to be very vigilant in their protein intakes to meet their recommended daily allowances. In my own experience pure vegetarian athletes may need a protein supplement to be able to eat sufficient protein while maintaining body composition goals.

3. Body composition challenges. The typical Indian diet is high in fat and simple carbohydrates that can lead to excess calorie consumption and unwanted gains in body fat. Further there is a belief by many Indian athletes that a vegetarian diet equates to a healthy diet – however a vegetarian curry, for example, can be equally high in fat and salt content as a non-vegetarian curry – while also containing less protein.

So why are these macronutrients and micronutrients important for the body?

- Protein plays an important role in the body as the main building block for muscle, skin, hair and many other tissues. Protein has an important role in facilitating adaptations from exercise and also has a satiety effect (makes you feel full).
- Iron plays a number of important roles in the body including synthesis of haemoglobin (oxygen transport protein),

functional roles in erythropoiesis (red blood cell production), thyroid hormone metabolism, neural function and immune function, as well as being an important component of oxidative enzymes. Only a mild iron deficiency has been shown to affect athletic performance.

- Calcium and Vitamin D (another potential deficiency in athletes) is important for maintaining a healthy bone density and may play a role in reducing the risk of stress fractures.
- Vitamin B12 is essential for proper nervous system function, homocysteine metabolism (high levels of homocysteine increases the risk of cardiovascular disease and possibly bone fracture), and DNA synthesis, especially in erythrocytes (red blood cells). This has potential implications for general athlete health as well as fatigue and recovery from exercise.

So now we know that the Indian athlete needs to be particularly vigilant with their diet to ensure adequate macronutrient and micronutrient intake to maximize performance.

The most important thing to remember when developing a proper diet for any player is that it must be well balanced. It is recommended that players eat 2-3 hours prior to games and exercising. Studies have shown that when there is food in the stomach, the heart pumps large volumes of blood to the stomach to aid in digestion. For instance, when an athlete goes into a game or practice with food in their stomach, the heart will shunt the blood to the working muscles thereby stopping the digestive process. This can cause stomach gas and cramping.

#### References:

- 1) **Sharma, Rama, Mishra, M.K.** Poshan Evam Swast Vigyan, Arjun Publication House-New Delhi.2010.
- 2) **Supriya, V. & Ramaswami, L. (2013).** Knowledge, attitude and dietary practices of track and field athletic men and women aged 18-22 years. *International Journal of Innovative Research & Development* 2(11): 399-404.

- 3) **Jose, R. & Chandrasekhar, U. (2009).** Nutritional profile and performance parameters of selected sports men and women. *Indian Journal of Nutrition and Dietetics* 46(2): 43-49.
- 4) **Kumar, Amresh,** Khel Manovigyan, New Gyan Offset Press, New Delhi.2006.

\*\*\*\*\*