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# Traditional Foods for Athletic Sports

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**Abstract**

*The appetite for traditional foods in world got up with the reinvention of traditional cultural recipes and the possible application in all sectors. In the recent years, there has been increasing interest towards traditional foods throughout the world due to their importance in health, nutrition as well as their immense commercial potentials. In addition, there has also been an initiative to conserve these traditional foods before they become extinct. Athletics is an endurance game needs more specific dietary planning as per the requirement of activity schedule. Athletes today follow a vague diet and misunderstood the principles of ideal diet for sports activities. The poor diet drops them up with poor performance and several health issues. Traditional foods of Indian origin possess interesting combination of nutrient that is required by an athlete in native state. Paanagam, Bajra porridge, Akkaravadisil, Appam and Porivilanga Urundai are some traditional recipes of Tamil Nadu were studied with their nutritional potentials and recommended for better athletic performance.*

**Key words:** Traditional foods ,culture, Paanagam, Aaravadisil, Porivilanga Urundai

**Introduction**

Athletics is a popular sport among young people. It consists of range of events requiring varying inputs of technique, strength, power speed and endurance. Athletes challenge their body on regular basis through physical training and competitions. In order to keep up with the demands of their own activity or sport, athletes need to adequately fuel their body on a daily basis. Every athlete's nutrition goals characterized into three segments called Training Diet, Competition eating, Special Nutritional Care. (2)

The diet must recommend for an athlete must be aimed to achieve and maintain the physique. Energy requirements vary with the individual but adequate energy must be contributed to achieve the hormonal and metabolic function during the training phase. The protein requirements must be equally shared for the strength and power for the training sessions. The total energy intake must be extracted majority from carbohydrates (55-70%) and the daily requirement is ranged out as 5-10 g / kg body weight based on the strain and drain. The training period must optimally provided with adequate amount of vitamin, minerals, and antioxidant rich foods so as to promote the optimal health. (1)

Body needs the proper fuel for peak performance, but nutrition is a factor many people overlook when training for physical activities. A person's diet not only impacts his performance, it also impacts his

overall energy level. (4) Athletes of today have a vague knowledge on food and nutrition care for successful result in the event. During the schedule of training they just get along with the fast eating foods that are available in the local food outlet. (6)

Fast foods comprise a daily meal for many athletes and non-athletes today, both in the U.S. and internationally. Junk foods are dumped by calories and one meal can offer 40% of a day's requirement with 27 % of its calories derived from saturated fat. Junk foods have little nutrition and are loaded with Trans fats, sugar and calories. They may provide an initial surge of energy, but will quickly expose an energy crash after eating. Most junk foods contain artificial ingredients to enhance their colors and flavors. Monosodium glutamate, or MSG, is one of the primary substances used to enhance the flavor of processed foods. MSG consumption causes muscle weakness, headaches and hormone fluctuations. It affects mental health, which also impacts how a person performs physically. MSG is known by many names, including hydrolyzed protein, autolyzed yeast and partially hydrolyzed guar gum. It is one of the main artificial ingredients in junk foods that can hamper a person's performance (7)

The fat and sugar levels in junk foods stress the metabolism, causing it to work less effectively. As metabolism slows down, the fat in body accumulates. Excess body weight causes tiredness during physical activities, and it increases the risk of developing serious ailments, including high blood pressure and heart disease. Also, while processing junk food, pancreas continuously secretes larger amounts of insulin to prevent blood sugar spikes and initiates the development of diabetes. Symptoms of diabetes include lethargy, blurred vision and numbness of the hands and feet, and all of these symptoms impact physical performance (3) Junk foods contain large amounts of processed fats, and these fats build up inside of arteries and in the blood. Excess fat in arteries will eventually stiffen, causing the arteries to become clogged. Fat buildup in the blood leads to high cholesterol, which increases the risk of heart disease. Many people unknowingly develop heart disease due to poor eating habits, and engaging in physical activities when undiagnosed heart conditions are present can be fatal.

A study conducted in Nigeria among 706 football athletes reveals 1 out of 4 were hypertensive and 1 out of 2 were pre-hypertensive; hence at 'high risk' of developing HTN . These high rates in BP may be due to a few factors that have been identified as major risk factors for CV diseases of which HTN is one. These factors include: unhealthy diet, tobacco use, and drug and alcohol abuse. In reality, most of the players in the study population fall within the low socio-economic stratum. (8) There are strong possibilities for these young players who are culturally exposed to unhealthy diets and may also indulge in anabolic steroids, diet pills, non-steroidal anti-inflammatory drugs, herbal supplements, energy drinks, alcohol and substance abuse. (5)

Many athletes consider taking dietary supplements in the form of a pregame meal, as they look forward for a magic ingredient” to increase performance. But the fact that they do not know is the supplements are not regulated by the Food and Drug Administration, the nutritional quality of supplements purchased via the Internet or other sources may be questionable. They might not be pure, or they may contain banned substances that present risk to an athlete's eligibility. In many cases, athletes improperly use supplements as a meal replacement. Athletes who rely on supplements to manage a feeling of fatigue, loss of focus, and lack of energy could relieve the symptoms by switching to whole foods that provide a wide variety of nutrients (10)

Nutrition and the dietary requirement for sporting events require careful programming. The body requires food not only for energy but also for anabolic and reparative process. Inadequate diet may end up in eating disorders. Hence athletes need to be recommended with well balanced diet containing all macro and micronutrients. Special concern have to be delivered on food for different stages of activities, travel, vegetarianism and additional requirements. (11)

Hence an optimal nutrition plan is important to maintain the endurance of athletes also establish well eating habits among them is essential to retain their health status. Culturally designed traditional foods are ideal recommendation to compute the endurance meal of an athlete. (12)

### **Traditional Foods**

Traditional foods are foods originating from a heritage and culture of a traditional community who use their knowledge of local ingredients of plants and / or animal sources that are culturally and socially accepted by consumers outside of the traditional community (9). As the Traditional foods are made of pure source of food materials, they possess most of the proximate principles and functional components without losing their primary bio molecular functions. Hence the appetite for traditional foods in world got up with the reinvention of traditional cultural recipes and the possible application in all sectors. In the recent years, there has been increasing interest towards traditional foods throughout the world due to their importance in health, nutrition as well as their immense commercial potentials. In addition, there has also been an initiative to conserve these traditional foods before they become extinct.

As traditional foods are native food preparations with less exposure to chemical processing, certain suitable preparations can offer more elite nutrients to the players for better performance. Most of the Indian traditional beverages, chickies, crispies and dishes are simply eligible to fulfill the nutritional requirements of sports person. (13) In this review study some culturally specific traditional recipes of Tamil Nadu were analyzed with the nutritional contents and recommended for the endurance training.

### **Traditional Foods for Athletes**

#### **Panagam**

It is a sweet peppery flavored drink consumed in abundance during some festive seasons. This drink is made of jaggery, dry ginger, lemon, black pepper and cardamom. It basically acts like a coolant in summer and culturally believed to cure the tiredness, heatstroke and lack of appetite. The ingredients in paanagam counteract such elements provides an instantaneous rejuvenating feel to the one who consumes it. Paanagam is physiological equivalent of oral rehydration solution and regulates the electrolyte balance while exertion. Jaggery in paanagam does not undergo chemical process like sugar hence the micronutrients such as iron, magnesium, phosphorus and potassium are instantly present in it. Dry ginger has lot of antioxidant properties and astringency of it could control the exercise induced indigestion, nausea, and vomiting. Fresh lemon juice is also an effective anti oxidant contribute adequate vitamin c that enhance the absorption of iron. It is a wholesome food when compared to the chemically treated sports drink. Staying well hydrated during exercise and training is extremely important. Even a small amount of dehydration could be detrimental to performance. The dehydration induced fatigue and muscle weakness could be intelligently managed by developing a personalized fluid intake plan. Depending upon the length of event, climate and fluid loss of an athlete it could be planned. Usually sport drinks, sports gels or confectionaries are preferred for shorter events. But they are processed and added with many additives which can contribute negative effects of prolonged use. Hence consuming paanagam as an energy drink containing adequate nutrients is best for rehydration.

#### **Kambu Porridge**

A millet recipe made of pearl millet, ragi and raw rice, flavored with buttermilk. Millets are a group of highly variable small-seeded grains widely grown as cereal crops or grains. They are predominantly starchy and high in proteins, fibres, calcium, iron, potassium, magnesium and

zinc. Energy sparing B complex vitamins are present in them abundantly. More than there millets contribute very good health-promoting phytochemicals like polyphenols, Lignans, phytosterols, phytoestrogen and phytocyanins. The high fiber content promote sustained release of glucose into the blood stream while activity. The added buttermilk in the recipe is a good probiotic compound offer health favoring microflora to the gut and enough fluid to the body. This recipe is usually garnished with lot of chopped small onion, coriander and curry leaf. The raw onions are very good source of sulphur containing components that act as a scavenger for free radical secreted during oxidative degeneration.

During the days and hours prior to competition the athlete should consume foods to prepare adequate fuel stores for their event. Carbohydrate loading must be there to maintain the glycogen stores during exercise. Recent studies have shown Glycogen super-compensation can be done 36-48 hours of pre -event. This can help the athletes to perform well physically and mentally. This is the final top-up of fuel and fluid stores so as to athlete for high energy performance and reduced gastro intestinal tract upset. The food must be steamed, boiled or simple in composition. Hence this porridge will be an ideal choice of sports person in order to retain endurance throughout the event.

### **Akkaravadisil**

A single traditional recipe that could compensate the one third nutritional requirement of an athlete is akkaravadisil (Akkara Adisil). It is a popular south Indian traditional recipe which is prepared by rice and dhal cooked with milk and ghee. This soft double cooked dish is topped with roasted cashews and raisin and flavored by cardamom and camper. This traditional recipe is distributed in the temples and religious places of south India. Pilgrims who assemble in the religious places usually eat this as a ‘holy meal’ mainly to end up their fasting. Even a small portion of this dish could offer rich essential nutrients.

Endurance athletes tend to focus on carbohydrate intake and pay little, if any, attention to protein. As a result, protein deficiency appears often among endurance athletes, with its inevitable negative effects on performance and health. Serious endurance athletes do need considerable amounts of protein, far above the normal adult RDA, because maintenance, repair, and growth of lean muscle mass all depend on it, as well as optimum immune system function. Low dietary protein lengthens recovery time, causes muscle weakness, and suppresses the immune system. Athletes work on training phase can choose this delicious dish to achieve adequate calories and protein to build their body and retain much energy for the matches

### **Poruvilanga Urundai**

It is a healthy nutritious sweet ball got the name of its mysterious blend of ingredients. It is a hard sweet laddu made of wheat, millet flour, rice, green gram dal, and jaggery. Nutritionally superior combination of its ingredient made its taste also superior. The long storage life of this recipe made the ancient travelers carry this for their long journey. The splendid combination of ingredients contributes the most required nutrients to sustain the normal wellbeing of travelers. This traditional recipe would be a right choice of athletes for travel across the country .This recipe contributes 78 cal per laddu with 3 grams of protein and 76 mg of calcium and 3 mg of iron which is an instant requirement of a sports person for sustained nutritional support on travel.

### **Sweet Appam**

A simple sweet recipe of Tamil Nadu is a perfect snack for athletes. It is made of banana and wheat flour and deep fried. The sweetening agent added in it is karuppatti or jaggery (traditional sweetening agent) which is un-refined and not treated with chemicals is a good source of iron. The

banana fruit added as a base ingredient is an ideal snack for a sports person recommended by WHO, as it has 10% of the daily recommendations of potassium could help an athlete to compensate the loss of minerals during exercise. The fat fried banana fritter is a good source of carbohydrate offers 640 K Cal that help for the energy management of a sports person. The recipe can also be made as balls (kuzhipaniyaram) with less oil using shallow fry method in specially designed cooking equipment.

**Table.1 Nutrient Composition of Traditional Recipes Recommended for Athletes (per portion)**

FOOD	Energy (kcal)	Carbohydrate (g)	Protei (g)	Fat (g)	Fibre (g)	Calcium (mg)	Iron (mg)	Thiamine (mg)	Ribo flavin (mg)	Sodium (mg)	Potassium (mg)
Paanagam (100 ml)	144	35	1	1	1	18	1	1	-	105	16
Baajra Porridge (100ml)	269	37	10	9	3	36	4	0.1	0.1	352	107
Accaravadisil (100g)	1178	203	32	29	11	134	4	-	-	58	180
Porivilanga Urundai (35 g) Ball)	103	19	4	1	3	23	1	-	-	5	182
Sweet Appam (25g)	242	55	3	1	-	18	1.2	0.2	0.1	74	133

## Conclusion

A healthy diet is one that provides adequate energy, necessary amounts of nutrients, and proper hydration, which cannot be provided by any single food or supplement. Athletic trainers should be aware of the existence of nutritionally superior traditional foods of harmless choice for better performance. Most athletes recognize that dietary intake can affect performance. Recommendations provided by an athletic trainer can provide a foundation for healthy eating habits during a young athlete's competitive years that will provide long-term health benefits. The promise of sporting success may provide strong motivation to develop good dietary practices. Information and the example of good role models may help a young person to develop sound eating practices in everyday (training) diets as well as the specific preparation for competition. Hence it is need of the hour to explore and reintroduce the foods of our ancestors who lived long as the warriors of the country with the iron body.

## References

1. Adam Amawi, Walaa Alkasasbeh, Manar Jaradat, et.al, Athletes' nutritional demands: a narrative review of nutritional requirements, *Frontiers in Nutrition*, 2024
2. Md.Abir AI Mahmud, Mohammad Hasan Chowdhury, et.al, Nutrition for Athletes for enhancement of their Performance, *Asahperd Journal*, 2019
3. Ashakiran, Deepthi, Fast Foods and their Impact on Health, *Journal of Krishna Institute of Medical Sciences University*, 2012
4. Matthew Kaufman, Chantal Nguyen, et.al, Popular Dietary Trends' impact on Athletic Performance: A critical Analysis Review, *Nutrients*, 2023
5. Owoeye OBA, Olawale OA, et.al, Prevalence of Hypertension and Pre-hypertension in Male Adolescent Football: A Cross-sectional Cohort Study of Nigerian Players, *American Journal of Hypertension Research*, 2013

6. Kaitlyn M.Eck, Carol Byrd-bredbenner, Food Choice Decisions of collegiate Division I Athletes: A Qualitative Exploratory Study, *Journal of Nutrients*, 2021
7. Lenka Shriver, Nancy Betts, Gena Wollenberg, Dietary intakes and eating habits of College Athletes: Are Female College Athletes Following the current sports nutrition standards, *Journal of American College Health*, 2013
8. Ranil Jayawardena, et.al, Perceptions of the importance of sports nutrition knowledge and barriers in implementing them: a qualitative study among track and field stake holders in Sri Lanka, *BMC Nutrition*, 2024
9. Dae Young Kwon, Why Traditional foods, *Journal of Ethnic foods*, 2015
10. Keren Tiwari, et.al, Coaches’ perceptions about food, appetite, and nutritionof adolescent Indian Athletes- A Qualitative study, *Heliyon*, 2020
11. Karen Bikenhead, Gary Slater, A Review of Factors influencing Athletes’ Food Choices, *Sports Medicine*, 2015
12. Matthew Kaufman, et.al, Popular Dietary trends’ impact on Athletic Performance: A Critical Analysis Review, *Nutrients*, 2023
13. Samiran Bisai, et.al, Traditional food consumption pattern and nutritional status of Oraons: An Asian Indian Indigenous Community, *Journal of Nutrition and Sustainable*, 2023