

## Still drinks Technology:

Still drinks Technology comprises juice drinks with low fruit content, sport drinks that are isotonic, hypotonic or hypertonic, and functional beverages that are enriched with vitamins, mineral salts, and auto-oxidizing molecules. Emerging product categories such as functional beverages have highly specific process requirements.

### **SPORTS DRINK**

Sports drinks and energy drinks are both non alcoholic beverages with different purposes according to the selected target groups. Sports drinks' main goal is to promote hydration, sustain endurance performance, and replace electrolytes, whereas energy drinks improves perceptions of attention and vigilance and also function as energizers and performance enhancers.

Sports drinks normally contain a small amount of carbohydrate (e.g., 6–8 g/100 mL) and electrolytes (sodium, potassium, calcium, magnesium). Contrarily, energy drinks contain higher amounts of carbohydrate along with nutrients (riboflavin, niacin, vitamin B6 and B12, sodium, potassium, phosphorus, taurine). As the metabolism of the aforementioned nutrients may influence individuals' circadian rhythm, it is crucial to examine sports and energy drinks' consumption patterns and recommendations. This chapter also summarizes the effects of sports and energy drinks on the cognitive and physical performance and health-related behaviors.

#### **Classification of sports drink**

Sports drinks can widely be classified into three types based on the carbohydrate and electrolytes content, which are:

**Isotonic sports drink:** Isotonic sports drinks are referred to those drinks which contain similar amount of carbohydrates and electrolytes in comparison to human body. Generally, an isotonic sports drink comprises 8% carbohydrates. The predominant aim of isotonic sports drinks is to restore water, sugars, and salts that are lost during physical activities. The presence of electrolytes and carbohydrates in the drink maintains the glycogen content of the body .

**Hypotonic sports drink:** The hypotonic sports drinks contain less percentage of carbohydrates in them and are mainly consumed by players who require more fluids and lesser amount of carbohydrates. Some researchers have reported that the fluid from hypotonic sports drinks are easily assimilated by the human body compared to isotonic sports drinks .

**Hypertonic sports drink:** Hypertonic sports drinks consist of the highest percentage of carbohydrates which further increase the osmolality of the drink. Due to excessive amount of

carbohydrates, consumption of hypertonic sports drinks increases the rate of water flow in the intestine of human body (Maughan, 2000).