

Research Article

Research on Sports Drinks for the Promotion of Sports Ability

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Abstract: This study from the following technical problems as the following: The first is effect analysis. For sports drinks, quench thirst and eliminate fatigue should be two points. But some products of their effects are not obvious in the market. The second is developing specific formula to specific person. At present most sports drinks include products basically with carbohydrate, vitamin and minerals. In fact, different gender, different age movement Nutritional requirements are different, we should develop to meet the needs of various types of consumer movement.

Keywords: Effect analysis, sports drinks, various measures

INTRODUCTION

Sports drinks refers to the nutrient composition and content which can be adapted to the Physiological characteristics of manual labor people such as athletes taking part in physical exercise, Special nutritional requirements of soft drinks, it can supply moisture, electrolyte and energy for human body before and after exercise instantly, to maintain and promote fluid balance or quick recovery (Jeukendrup *et al.*, 1995). In the national standard classification of soft drink regulation, sports drinks/special-purpose beverage, belonging to 9 categories national norm fizzy drink, The national norm includes fizzy drink and non-inflatable sports drinks, sports drinks use scientific preparation correctly, help to improve performance, promote the scientific sports training and the national fitness. A real sports drinks should meet the three basic conditions and the desired effect:

- Hydrated: To prevent dehydration and/heat syndrome (heat)
- Energy Maintain energy, drive and endurance, recovery from fatigue
- Supplement vitamin and inorganic salt, keep the balance of inorganic salt in the body, maintain the body's ability to robust and full activity.

MATERIALS AND METHODS

Measures after drinking sports drinks: Motion capture technology can catch the action of the players, which is easy to make quantitative analysis, combined with human physiology, principles of physics, to study the researching method, making the physical training getting rid of the pure experience, so as to enter into the scientific and digital age. Recording the poor

performance of the athletes, compared with the performance of the elite athletes, so as to help their training, providing the accurate quantitative basis for the scientific training (Gu, 2007). With the aid of the motion capture technology and computer image processing technology, it can greatly improve the visibility of the athlete technical training, which is helpful for the quantitative analysis of technical action, displaying the results graphically, including the displacement, velocity, force, etc (Fig. 1). Based on it, it made deep analysis about the "ideal" action as well as the athlete's technical movement, putting forward the guiding advice for the athletes to improve the technique action.

In this section, we present some numerical examples to show the performance of drinking the sports drinks, also in comparison to the ASB and the two-stage Rao detector. All curves have been obtained by means of numerical integration techniques. In all examples, the noise is modeled as an exponentially-correlated complex normal vector with one-lag correlation coefficient ρ , namely the (i,j) -th element of the covariance matrix M is given by $\rho^{|i-j|}$, with $\rho = 0.9$. Moreover, we set $P_{fa} = 10^{-4}$, $p_0 = s(0)$ and vector $s(\theta)$ is defined as follows:

$$s(\theta) = \frac{1}{\sqrt{N}} \left[1, e^{j\frac{2\pi d}{\lambda} \sin\theta}, \dots, e^{j(N-1)\frac{2\pi d}{\lambda} \sin\theta} \right]^T$$

where,

λ = The radar operating wavelength

d = The interelement spacing

A. Matched detection performance, as shown in Fig. 2.

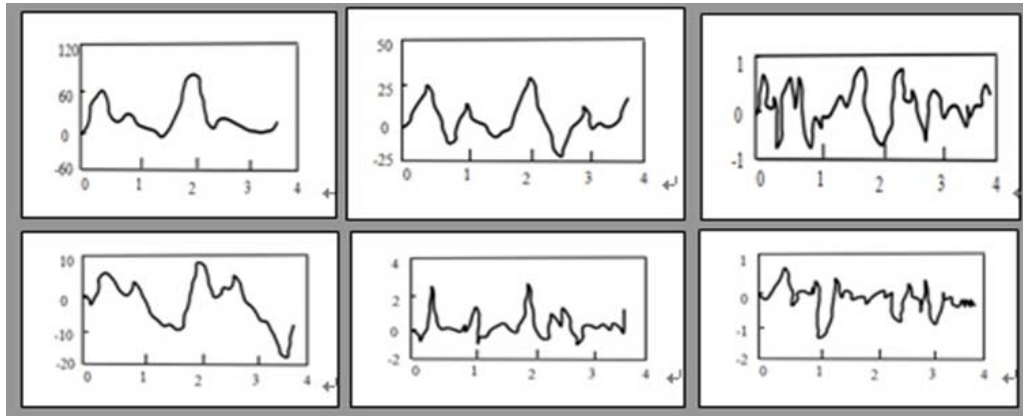


Fig. 1: Sports technology capture after drinking sports beverage

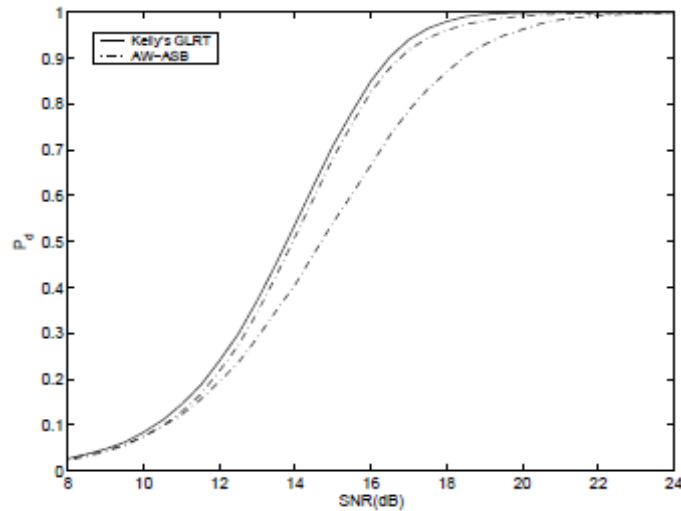


Fig. 2: Versus SNR

The effects of sports drinks: The research of the effects of Sports drinks on different sports items and athletes showed that:

- After doing the same quantitative load exercise, the different types of sports drinks have positive effects on promoting athlete's functional recovery (Bankova *et al.*, 2005). Li and Jiao (2006) and someone else took the student whose major was martial arts in the professional sports university, the research was after the quantitative load exercise of the subjects, the supplement of two different types of sports drinks can promote the recovery of the heart rate response and blood glucose after exercise, but there was no obvious difference between them, but the effect of the higher concentration was stronger than the low concentration.
- As for the different special training, as the mechanism that caused the fatigue was different, so the choice of different types of sports drinks was more advantageous to the recovery of the athletes.

Deng Yunlong and someone else made research on the athletes of the triathlon training team from PLA military team, observing the influence on athletes' physical stamina after being given different sports drinks in different special training items, which showed the effects of different types of sports drinks on aerobic exercise capacity and anaerobic exercise capacity were different. Thus, the application of sports drinks in sports can promote the athlete's functional recovery, improve the exercising capacity, ease the fatigue, making reasonable choice of sports drinks for different sports training and the athlete's functional state is of positive significance.

Although the research on sports drinks in China has made certain achievements, sports drinks also got certain development in our country, the current market sales of sports drinks are basically just some drinks with adding sugar, minerals, vitamin simply, moreover, the effect of adding energy and eliminating fatigue is not very ideal, the function of the supplement is too single with no specific aims, which cannot satisfy the

various special individuals to improve the exercising capacity and promote the healthy requirements, etc. Sports drinks have good effect on maintaining the individual motion, easing fatigue, promoting the recovery of the body, improving the ability of the body movement, etc. While the research of sports drink started late in our country, the research on the multifunctional composition and the other aspects of sports drinks is not very deep, therefore, the applying research of the sports drinks has great potentiality (Ivy *et al.*, 2002):

- Taking sports drinks can maintain the higher level of blood glucose for a long time with high intensity exercise. The stable volume of serum potassium and serum magnesium after exercises showed that the sports drinks could keep the body's environment stable.
- Supplying with sports drinks can reduce the content of blood lactic acid in the quantitative exercise, accelerate the recovery of blood lactate after exercises, which indicated that the aerobic exercise ability was increased.
- Supplying with sports drinks can make the Blood Urea (BU) of the subjects decreased significantly after the next day, serum SOD increased obviously, the level of RPE decreased significantly, which indicated that this kind of beverage had certain anti fatigue effect.

RESULTS AND DISCUSSION

The relevant departments should carry out rigorous assessment and detection for it. First of all, it should detect what kind of components, the function and source, whether it has adverse record or not, etc. As sports drinks, it should have the evaluation about the toxicity, the allergic and the nutritional composition, etc to build up the relevant norms, standards that should be more demanding than any other kind of food. It should undergo the rigorous safety evaluation, making a set of complete and effective long-term monitoring mechanism, strengthening the international cooperation, supervising the food safety from the source of the food. Fully guaranteed the market of sports drinks with fair, open and justice (Wang, 2006). The establishment of law enforcement agencies, as well as the determination of the detection mechanism can establish a set of national or trade standard. In order to strengthen the safety management of sports drinks and ensure the various rules and regulations that can be implemented, the Ministry of Agriculture should develop the management and enforce the law of genetically modified food safety nationwide the special management of genetically modified food should start to supervise the food hygiene and safety, making the corresponding management procedure and method. According to the status of self-examination and inspection, it should make the illegal circumstances with serious status exposed in the media publicly, so as

to put the interests of public health at the first place and strengthen the public supervision. Moreover, with the independent departments, clearing the division of responsibilities, clearing the mutual rights and obligations, it can realize the coordination and unification.

CONCLUSION

To sports beverage, the promotion strategies of functional beverage are:

- We can design and operate some sports marketing activities and choose sports stars that young people very like to act ambassador who communicate between the manufacturers and consumers.
- We must consider brand position, at the same time, we don't forget promoting functional effects of energy beverage. We can choose some people as the first consumers.
- To sports beverage with special effects, we can design and operate activities that products are recommended, public service marketing activities, should be more targeted at advertisement. Furthermore, this study also explores the mechanism of technological innovation and sports beverage development model.

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