

Research Article

A Study on Sprinter Nutrition KAP Survey

Huali Zhao

Physical Education College, Zhoukou Normal University, Zhoukou, 466000, Henan, China

Abstract: Many investigations have shown that unbalanced diet and un-guided intake of nutritional supplements have little effect on helping athletes' body restoration. This study has investigated the problems existed in the basic diet by providing nutritional KAP questionnaire to high-level university athletes in Hunan and using a 24-h retrospective analysis on the athlete's daily routine diet and additional diet.

Keywords: KAP, sprinter nutrition

INTRODUCTION

In recent years, problems concerning food safety frequently occurred. In some universities, facilities in the cafeterias are outdated and the administrators of those cafeterias did not pay enough attention to food safety for lack of awareness. Sprinters, a special group of university students, suffer from long-term basis of arduous daily training and insufficient and unbalanced nutrition, which is mostly due to lack of nutrition knowledge as well as unbalanced dietary pattern (Sondik *et al.*, 2010). However, adequate nutrition is the foundation for good training and is beneficial to maintaining function status, physical strength adaptation, recovery after exercise and precaution of sports diseases. Therefore, in order to guarantee college athletes' food safety, it's imperative to enhance the awareness of college teachers, students and diner staff so that they can actually protect students' rightful interest and their own health. The question whether college sprinters' nutrition conditions and physical fitness can be improved is closely related to whether they have enough knowledge about nutrition, fine attitude towards nutrition and correct dietary behaviors.

Thus, it's necessary to conduct thorough survey and analysis concerning college sprinters' dietary nutrition. Survey of college food safety and college students' dietary nutrition has been conducted under the KAP (Knowledge-Attitude-Practice) pattern (Popkin, 2006). Knowledge is the foundation, practice is the goal and attitude is motive. To adopt healthy behaviors, there must be a change from knowledge to attitude and then to practice. A certain amount of knowledge and positive attitude is the first step for the conversion to occur. The research shows that abundant food safety knowledge is a direct factor influencing people's attitude and then their choices and behavior of taking in food (Lenahan *et al.*, 1973). Therefore, for college teachers and students, their food safety knowledge and attitude have immediate impact on their choices of food

and on maintaining health. This study, based on the questionnaire survey conducted on some college students and diner staff concerning their food safety knowledge, attitudes and behaviors, analyzes these factors' impact on food security in universities so as to lay the foundation for long-term college food safety management mechanism (Cheftel, 2005).

The following are the problems of sprinters' nutrition:

- Generally lacking nutritional knowledge and having cognitional misunderstandings.
- For most athletes and coaches, fish and meat and that greasy food alike are nutritional. They consider meat as nutrition that will give athletes strength. The more they consume the better.
- Choosing daily diet randomly and blindly, especially devaluing the supplement of fruits and fresh vegetables.
- Most coaches pay no attention to special nourishment, considering it as dispensable.
- Athletes are unaware of nutrition knowledge and they ignore basic nutrition needed in sprint training.
- There are many unreasonable dietary behaviors, such as ingesting homogeneous type of food for breakfast, choosing snacks for extra meal, or choosing food according to athlete's own preference and eating heavily.

MATERIALS AND METHODS

Research object: The survey was conducted on 32 college sprinters (among which there are 19 male and 13 female; 2 national level athletes, 3 master-level athletes, 23 level-1 athlete, all athletes are level-2.). Basic information is shown in Table 1.

Research method: This questionnaire is based on health education K-A-P model, with reference to

Table 1: The basic situation of high level sprinter in universities in Hunnan province

Sex	Number of people	Age	Height/cm	Weight/kg	Training period
Male	19	22.9±3.3	177.4±10.4	67.5±7.5	6.6±3.4
Female	13	24.4±2.3	168.0±5.5	54.3±2.1	9.4±3.2

Table 2: Questionnaire reliability test (n = 30)

Index	K	A	P
r	0.85*	0.96*	0.90*

*: p<0.05

Table 3: Questionnaire validity test (n = 30)

Index	K and A	K and P	A and P
r	0.31*	0.36*	0.35*

*: p<0.05

pertinent articles, covering the research on nutrition knowledge, attitude and practice (Parkwood Research Associates, 1995). Secondly, after consultation with experts according to objects' school and major attributes and training conditions and after thorough discussion and preliminary research, the questionnaire was thusly completed. Research content mainly includes: research object's basic information (age, gender, nationality, illness or injuries etc.); 11 dietary nutrition knowledge questions; 10 dietary nutrition attitude questions and 8 dietary nutrition practice questions (Guthrie *et al.*, 1995).

The questionnaire is anonymous, being handed out and handed back at the scene. According to statistics, 60 questionnaires were distributed and 60 valid questionnaires were recovered.

The schools in the research are universities in Changsha city. And the research was divided into 2-sample survey every other months. The results of the research are presented in Table 2 and 3. From Table 2 and 3, it's clear that the scores of dietary nutrition Knowledge (K), dietary nutrition Attitude (A) and dietary nutrition Practice (P) show positive correlation (PGO. 06). Moreover, according to the analysis of construct validity, the results still show positive correlation (PGO. 05).

Research content:

- The level of athletes' food safety knowledge, the level of attention paid to food safety and channels of access to food safety knowledge.

- Athletes' attitudes and practices towards food safety; daily dietary concept; regular places for purchasing food; how well they know the manufacturer of the food they purchased; what they care about when purchasing food; their most concerned food safety problems and measures to avoid; attitudes when encountering unqualified food and measures to handle; diner staff's standardization in the purchasing, processing, storing and selling food.

Research objects in the study usually acquire nourishment knowledge through sports nutrition courses; however, generally speaking, they still lack necessary nourishment knowledge. More specifically, in basic nourishment, athletes only possess better understanding of the origins and physiological effect of protein food, as for understanding of the origins and physiological effect of food containing carbohydrate, fat, vitamin and mineral is insufficient. In sports nourishment, 71.9% of the sprinters (23 objects) are unaware of the recommended nutrient intake for athletes and 25% of them (8 objects) have heard of it and only 12.5% of them know. The ratio of knowing sprinter dietary needs is 6.25% (2 objects) and the ratio of knowing the three major dietary energy is 3.8% (1 object). Almost all athletes know the effect of nutrition supplements. Learned from the interview, profiting from enhanced education in anti-doping, athletes' superstition on stimulant no longer exists and correct view on sports nutrition supplements is formed (Table 4).

RESULTS AND DISCUSSION

Research result:

- The statistical analysis of KAP questionnaire feedback shows that the sprinters are typically lack of basic knowledge on fundamental and special nutrition.
- Most of sprinters have good nutritional status.
- Though the sprinters have good nutritional status, local strong-flavor eating habit in Hunan is not good for their nutritional absorption.

Table 4: Survey results of foundation knowledge of high level sprinter in universities in Hunnan province

Content	Number of people			
	High	Higher than general	General	Low
Cognition of the primary food sources of carbohydrate and the physiological action of carbohydrate	3	8	19	2
Cognition of the primary food sources of protein and the physiological action of protein	6	19	7	0
Cognition of the primary food sources of fat and the physiological action of fat	1	4	26	1
Cognition of the primary food sources of vitamin and the physiological action of vitamin	4	6	20	2
Cognition of the primary food sources of mineral substance and the physiological action of mineral substance	3	5	22	2

- The composition of basic diet was inappropriate.
- The intake of three major sources of energy for the sprinters is inappropriate. The in-take of fat and protein is higher than the recommended level and the in-take of carbon-hydrate is in line with recommended level. The excessive in-take leads to extra burden for metabolism.
- The ratio of energy generation from daily diet is inappropriate.
- Coaches and sprinters are not familiar with the working mechanism, usage and the physiological signs of the nutritional supplements commonly used.

Sprinters dietary nutrition KAP analysis: Sound scientific dietary nutrition knowledge is a must for college sprinters in consideration of their own improvement and of shouldering the responsibility of campus sports competition. As healthy life is inseparable from scientific exercises and dietary practice, if college sprinters can provide the public with efficient dietary nutrition guidance as well as exercising advice, their social acceptance and realization of self-worth can be obtained at the same time. Through this questionnaire survey, it's safe to conclude that college sprinters have acquired basic conceptual knowledge of nutrition. Yet, as for how to use nutrition knowledge to guide dietary practice is insufficient and their dietary behaviors still are unreasonable. It's necessary for sprinters to gain more knowledge from media, books and professional experts to direct dietary practice and to balance unreasonable diet.

CONCLUSION

- The athlete team of universities in Hunan shall enhance its role in the management and intervention of athlete's diet and offer athletes.
- It is necessary to enhance nutritional knowledge and specialized the guidance on the guidance of proper diet to athletes for understanding basic

nutritional knowledge and makes them recognize the important benefits of balanced nutritional diet to muscle cell function and to body restoration.

- The match of personal training needs with light-flavored foods are recommended, which will be helpful in the nutritional absorption for athletes.
- It is necessary to make athletes aware of the function, usage and physiological signs of different nutritional supplements. Professional guidance for athletes on in-take of nutritional supplements will maximize its positive effects.
- Attention should be paid to athlete's in-take of protein during winter training, which will ensure the nutritional sufficiency and body restoration after training.
- Athletes should be made aware of the physiological signs, usage, dosage and in-take times of creatine.

REFERENCES

- Cheftel, J.C., 2005. Food and nutrition labelling in the European Union. *Food Chem.*, 93: 531-550.
- Guthrie, J.F., J.J. Fox, L.E. Cleveland and S. Welsh, 1995. Who uses nutrition labeling, and what effects does label use have on diet quality? *J. Nutr. Educ.*, 27: 163-172.
- Lenahan, R.J., J.A. Thomas, D.A. Taylor, D.L. Call and D.I. Padberg, 1973. Consumer reaction to nutritional labels on food products. *J. Consum. Aff.*, 7(1): 1-12.
- Parkwood Research Associates, 1995. Shopping for Health 1995: New Food Labels, Same Eating Habits? Food Marketing Institute/Prevention Magazine, Washington, DC, pp: 73-79.
- Popkin, M., 2006. Global nutrition dynamics: The world is shifting rapidly toward a diet linked with non-communicable diseases. *Am. J. Clin. Nutr.*, 84: 289-298.
- Sondik, J., T. Huang, J. Klein and D. Satcher, 2010. Progress toward the healthy people 2010 goals and objectives. *Annu. Rev. Publ. Health*, 31: 271-281.