An identification of potential food-safety risks to athletes.

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Introduction

Although regular moderate exercise is associated with reduced incidence of infection, however, continuous, prolonged and high intensity training or strenuous exercise causes temporary post-exercise immune dysfunction, known as the “open window” of susceptibility. This can lead to an increased susceptibility to infection.³ Additional factors that impact immune function, such as exposure to new pathogens during foreign travel, lack of sleep and mental stress, can further increase risks.² Consequently, athletes may be at an increased risk of foodborne illnesses for a number of reasons.

Gastrointestinal infections can be troublesome and debilitating to athletes.¹ The incidence of foodborne infection at sporting events, has had a significant effect on the performance of several individual athletes and teams.¹ Subsequently, practices such as good hygiene are essential in preventing illness; in sports, it is fundamental to maintaining team effectiveness and to assist athletes in avoiding the adverse effects of illness.⁴

The recommended food safety practices to reduce the risk of foodborne illness relate to five key areas, (cleaning, cross-contamination, cooking, refrigeration and safe choices, including the adherence of-use-by dates).¹ Although all are of importance to reduce the risk of foodborne infection among athletes, there is a need to explore the specific food safety risks that exist among athletes due to the unique relationship with food and the consumption habits adopted during training and competing to maximise nutrition.

Research aim

The purpose of the study was to identify potential food-safety risks from athletes food preparation and consumption habits.

Methods

Data collection: A semi-structured discussion group was conducted with sports nutritionists to identify the potential food-safety risks that exist from the food preparation and consumption habits of athletes

Ethics: Ethical approval for the study was obtained from the Cardiff School of Health Sciences Ethics Committee.

Results

The group discussion explored the potential role sports nutritionists can play to reduce the risk of foodborne infection among athletes. The participating sports nutritionists (n=4) identified food-preparation, storage and consumption habits unique to athletes that may increase the risk of foodborne illness, these concerns related to two key areas:

• Food preparation, storage and consumption practices during training, and
• Food safety awareness when travelling to overseas competitions.

The role of the Performance Nutritionist

The role of sports nutritionists to inform athletes of food-safety risks and enable risk-reducing behaviours discussed. The role was predominantly nutrition and performance related, however, food delivery and safety information would not be the focus of sessions, but would be delivered alongside food preparation mentoring sessions (Figure 1):

"If you’ve luck enough to be on a camp or a competition with them then you still have to do your homework and know what the food is like being prepared and things like that. But if you’re not able to do that, that’s when education of athletes is key and they need to look what is out there, you need to look what the learning signs are." (Participant 4)

"We often develop the themes of the session with the coach, to say ‘well what things are you seeing, you know, in your activities. What would you like to be improved? Or what areas should we focus on from a performance angle?’" (Participant 4)

In discussions regarding methods utilised to deliver information to athletes, it was identified a variety of approaches may be adopted by sports nutritionists to provide athletes with information. Methods vary greatly depending on the sport, age and level of the athlete and often involve working with the coaches (Figure 2):

Figure 1. Role of the Performance Nutritionist

"There have been times when I’ve gone into athlete houses and seen some of the food that he’s cooked and then I would consider it a risk." (Participant 4)

"…” We actually have done things like that. I managed to secure a fridge at training venues such as aountainside place where it’s a bit more remote and if we come and the food is not in the fridge we can’t do further so we would do practical demonstrations there if we needed to."

Figure 2. Performance Nutritionist methods of information delivery to athletes

Food preparation, storage and consumption practices during training

Potential food safety risks arising from the unique relationship of athletes with food were explored. Performance Nutritionists reported having observed practices of concern particularly when visiting shared athlete houses (Figure 3). Potential food safety risks from advanced preparation, cooking, prolonged storage and uncontrolled refrigeration were discussed and raised points of concern relating to limited awareness of the need to ensure safe storage practices during training. Access to appropriate refrigeration/re-heating facilities when training were identified and were reported to be had been addressed. However, the attitudes of athletes towards the importance of food-safety may prevent athletes implementing recommended food safety practices. For example, even when refrigeration facilities are available, athletes are failing to use them (Figure 4).

Figures 3 & 4. Role of Performance Nutritionist food safety experiences with athletes

Food-safety awareness when travelling to overseas competitions.

While travelling for competing at events abroad, independence in food choices and language were identified as potential barriers to ensuring food-safety. The Performance Nutritionist had first hand experience of athletes succumbing to foodborne illness whilst travelling overseas to compete, the group shared the food safety advice they would give athletes when travelling abroad. It was identified that the food safety culture of events would be dependent on the profile and funding of the event (Figure 5).

Figure 5. Performance Nutritionist experiences of athletes food-safety attitudes and behaviours during training

Conclusion

• The study has determined that two key areas of risk have emerged that require further exploration with athletes, food-preparation, storage and consumption practices during training, and food-safety awareness when travelling to overseas competitions.
• There is a need for research to determine the food safety knowledge, attitudes and self-reported practices of athletes.
• Furthermore there is an identified need to explore the food safety training and education available to facilitate the delivery of food safety advice and information to athletes.

References