Nutrition strategies of eRacing cyclists

A. Nichols[1]

[1]*Food and Nutrition Group, Sheffield Business School, Sheffield Hallam University, Sheffield, UK*

Advances in communication technology and the mass-production of cycle ergometers in recent years have blurred boundaries between traditional sports and video games, leading to the emergence of cycling Esports. With the pandemic postponing outdoor competition, cycling Esports gained mainstream acceptance as a discipline in 2020, with the world governing body (UCI) hosting its inaugural world championships. By 2022 the market leading platform, Zwift, had registered over 375,000 users on its race platform ZwiftPower. Whilst there are established nutrition guidelines for endurance athletes, to date there is limited research on the practises of athletes competing in eRaces at home[1,2]. The aim of this study was to characterise the nutrition strategies used by eRacing cyclists. UK-based eRacing cyclists aged 18–60 were recruited from a subset of eRacing questionnaire respondents between May 2021 and May 2022. After confirming eligibility, data collection packs comprising urine collection containers and colour charts, and booklets were posted. Participants uploaded data from three races electronically and were sent individual reports upon completion of the study. The carbohydrate and fluid intake before, during and after competition and post exercise protein intake and hydration status was calculated and compared to established sports nutrition guidelines. Additionally, race data (including SRPE, average power and heart rate), use of supplements, cooling strategies and equipment set up and demographic data was collected. Sweat rates were estimated by changes in body weight. The average values of three races per athlete were used for data analysis. Eight participants (7 male and 1 female, mean age 40.0 ±11.8 years, mean body mass 69.3 ±8.1 kg) completed the study. Pre-race carbohydrate, during race carbohydrate and post-race protein recommendations were met by only 50% of the participants in each case. Mean sweat rate was recorded at 1.29 ±0.32 l/hour and had a strong positive correlation with ambient temperature (r = 0.818, p = 0.013), but was not correlated with fluid intake rate (r = 0.818, p = 0.013).

However, the relatively short duration of the races (mean 59.5 ±9.5 minutes) prevented this mismatch resulting in performance impairing levels of dehydration of >2% body mass lost in sweat in the majority of athletes (mean post-race dehydration 1.27 ±0.43 %). Caffeine was the most popular supplement and was used pre-race by 50% of participants. Excluding light clothing and fan ventilation, no additional cooling strategies were reported. Despite the theoretically high availability of nourishment for athletes competing at home, lower than recommended intakes of carbohydrates, protein and fluids around eRaces were common amongst athletes. Sweat rates are relatively high even in moderate temperatures and further studies investigating cooling strategies may identify potential performance gains in this novel sport.

References

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