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Amateur cyclists can complete the full Tour de France in the same amount of days as professional cyclists

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Abstract

Introduction: Participating in the Tour de France (TdF), 3.497 kilometres in 21 days, is a challenge for professional as well as for amateur cyclists. The exceptional high demands both physically and mentally enhance the risk of falling sick or getting injured. The aim of this study was to investigate what factors can potentially predict whether an amateur cyclist can complete all kilometres of the official TdF (version 2012).

Methods: Prospective single – centre cohort study from June 29th, 2012 till August 19th, 2012. 24 amateur cyclists (3 women) from 29 – 60 years old participating in the TdF 2012, starting and finishing one day before the professional cyclists, were included in this study. All participants completed a questionnaire on general training information. In the six months before the start of the TdF participants performed a cardiopulmonary exercise test (CPET). The participants were asked to register their level of perceived stress and exhaustion on a Borg scale every day. On day 1, 6, 13, 19 and 23 they were asked to fill out a Profile of Mood States (POMS) questionnaire. Apart from this they were asked to fill in a diary on food and fluid intake in three consecutive days. Data on injuries and sickness were registered by the participating training sports physician (TB). Participants were allowed to skip one or more days for any reason. In that case they were considered as 'did not complete the full TdF'. Data analysis was performed using logistic regression analysis.

Results: 23 amateur cyclists (average age of 48 years) were included in this study. One cyclist was excluded due to lack of motivation to complete the full TdF. These cyclists trained on an average 5.931 kilometres in six months before the start of the TdF. CPET before the TdF revealed an average VO₂max of 39 mL/min/kg and an average maximal workload of 4,3 W/kg. 78% (n = 18) of the participants completed the full TdF. They completed 3.564 kilometres and 45.676 climbing meters in 141 hours with an average speed of 25,6 km/h. All participants who had completed the full TdF had a maximal workload of > 4,0 W/kg during CPET before TdF (p = 0.003). Other factors such as: age over 50 years old (p = 0.059) and > 6.000 training kilometres (p = 0.098) appeared not to be of predictive value. Five participants could not complete TdF due to patella-femoral pain syndrome (1), lower respiratory tract infections (3) and clavicular fracture (1). After finishing TdF 22% of participants could not work for a few days due to illness.

Discussion: Lower respiratory tract infection was the most frequent reason to skip one or more days of the TdF. Due to extreme physical and living conditions it was easy for a virus to spread among the participants. Two rest days during the TdF was not enough for these cyclists to recover and regain enough strength to fully complete the TdF. The only significant difference between participants that completed the TdF versus participants who did not was their maximal workload during CPET. Other factors: age and kilometres of training before TdF were not of predictive value. However, it is known that maximal workload declines 6-10% after the age of 25 years in healthy men.¹

Conclusion it is possible for amateur cyclists to fully ride the TdF in the same amount of days as professional cyclists. But bear in mind that due to the small study population it is difficult to extrapolate the predictive factor of success to another group of amateur cyclists facing a similar challenge.

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