Commentaries on Viewpoint: Physiology and fast marathons

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Is physiology of fast marathons the same for all age groups?

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Joyner and colleagues provided a comprehensive overview of the physiological basis of fast marathon focusing on the physiology of the fastest runners independently of age (1). Considering the age of peak performance in marathon and the increased number of master runners participating in marathon races during the last decades (4), the physiological mechanisms reported by Joyner et al. (1) should be verified in master runners, i.e. those older than 40 years old (2). It was acknowledged that physiological characteristics related to race time (maximal oxygen uptake, anaerobic threshold and running economy) declined with age (2). Nevertheless, the older fast age groups – despite their slower race time compared to younger fast age groups – paced similarly as their younger counterparts (3). The ability of fast master runners to pace similarly as fast younger runners might be attributed to non-physiological aspects. For instance, fast master runners might be considered as more 'selected' runners compared to their younger counterparts considering the decreasing rates of participation in marathon races with age (3, 4). In addition, fast master runners accumulated a long sport experience, e.g. number of finished marathon races and training volume, which might offset the decline of physiological characteristics with age. Nowadays, master marathon runners compete at high level, and considering their specific characteristics and increasing number, future research should examine the physiological characteristics of fast master marathon runners.

References

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