Paper #45

Low Prevalence of Hip and Knee Arthritis in Marathon Runners

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Introduction: The association between distance running and arthritis is unclear. Our study is the first to describe hip and knee health in marathon runners, including the prevalence of pain, arthritis, arthroplasty, and associated risk factors.

Methods: A hip and knee joint health survey was completed by 953 marathoners, 52.8% male, from 37 countries with a median age of 45 years (18-79). Marathoners ran a median of 30 miles per week (0-150) over 12 years (1-60) and completed 19 marathons (1-1016). Questions assessed pain, diagnosis of arthritis, family history, history of hip or knee surgery, personal record time, and current running status. The prevalence of arthritis in marathoners was compared to the prevalence in the United States adult population based on 2010–2012 National Health Interview Survey data. Multivariate analyses identified risk factors for hip or knee pain and arthritis in marathoners.

Results: Hip or knee pain was reported by 53.3% of marathoners. The prevalence of hip and knee arthritis was 8.8% in marathoners, which is significantly lower than the overall prevalence in the U.S. population (22.7%) and subgroups stratified by age, gender, and BMI, and physical activity level. Nine marathoners (0.9%) reported undergoing hip or knee arthroplasty, and seven continued to run. Multivariate analysis indicated that increasing number of marathons was associated with decreased rates of joint pain (OR 0.5, 0.4-0.7, p<0.0001). Female gender (OR 1.8, 1.0-3.1, p 0.045), family history (OR 2.2, 1.3-3.7, p 0.002), surgical history (OR 5.4, 3.1-9.3, p<0.0001), age (OR 1.1, 1.0-1.1, p<0.0001), and BMI (OR 1.1, 1.0-1.1, p<0.0001) are independent risk factors for arthritis in marathoners while there was no significant affect from running volume or intensity.

Conclusions: Female gender, family history, surgical history, age, and BMI are independent risk factors for arthritis in marathoners while there is no significant correlation between running history and arthritis.
