

Former male elite athletes and risk of hypertension in later life

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Abstract In Brief Author Information Authors Article Metrics Metrics

Objective: The aim of this study was to assess whether a former career as an elite athlete protects from hypertension in later life. We hypothesized that vigorous physical activity during young adulthood protects against hypertension later in life.

Methods: The study population ($n = 3440$) consists of 2037 former male elite athletes and 1403 matched controls. Of those, 599 (392 former athletes, 207 controls) participated in a clinical study in 2008. The athletes were divided into three groups: endurance, mixed and power sports. Assessment of hypertension was based on athletes' entitlement to reimbursable antihypertensive medication from the Finnish Social Insurance Institution; among the clinical study participants, this was also based on self-reported current use of antihypertensive drugs or measured hypertension. The current volume of leisure-time physical activity (LTPA) was determined by questionnaires.

Results: Among the participants, the former athletes had lower age-adjusted prevalence of hypertension than the controls [odds ratio (OR) 0.69, 95% confidence interval (CI) 0.49–0.98] and the endurance athletes had the lowest OR (OR 0.43, 95% CI 0.23–0.80). OR for the prevalence of hypertension decreased (OR 0.90, 95% CI 0.84–0.96 per 10 metabolic equivalent hours/week) when there was an increase in the volume of LTPA. The former athletes without blood pressure-lowering medication had significantly lower SBP than the controls [139.2 mmHg (SD 18.7) vs. 144.2 mmHg (SD 19.5)] ($P = 0.027$).

Conclusion: A former career as an elite athlete seems to be associated with a lower prevalence of hypertension in later life. The volume of current LTPA was inversely related to prevalence of hypertension.

Supplemental Digital Content is available in the text

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Abbreviations: BP, blood pressure; CI, confidence interval; CVD, cardiovascular disease; LTPA, leisure time physical activity; MAP, mean arterial pressure; MET, metabolic equivalent of task; MET-h, metabolic equivalent hours; OR, odds ratio; PP, pulse pressure

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