

Physical activity and cause-specific mortality among 150,000 participants in the Mexico city prospective study

L. Gnaniuc Friedrichs¹, J. Alegre-Diaz², R. Ramirez-Reyes², E. Trichia¹, D. Aguilar-Ramirez³, R. Wade¹, R. Collins³, R. Peto³, J. Berumen², J. Emberson¹, P. Kuri-Morales², R. Tapia-Conyer²

¹University of Oxford, MRC Population Health Research Unit; Nuffield Department of Population Health, Oxford, United Kingdom of Great Britain & Northern Ireland

²National Autonomous University of Mexico, School of Medicine, Mexico City, Mexico

³University of Oxford, Clinical Trial Service Unit & Epidemiological Studies Unit, Nuffield Department of Population Health, Oxford, United Kingdom of Great Britain & Northern Ireland

On behalf of Mexico City Prospective Study Investigators

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Background: Previous studies of high-income populations have found that physical activity is associated with reduced mortality risk. We investigated the association of recreational physical activity intensity with cause-specific mortality at ages 35-74 in a Mexican population with high levels of adiposity and diabetes.

Methods: Between 1998 and 2004, 150,000 adults (age ≥ 35 years) were recruited into the Mexico City Prospective Study, and followed for median 19 years. Cox regression was used to assess the association of baseline-reported intensity of recreational physical activity (none, <30 minutes, ≥ 30 to <60 minutes, or ≥ 60 minutes per activity session) with death before age 75 years. Analyses were adjusted for age at risk, sex, residential district, education, smoking and alcohol consumption. They excluded those who at recruitment were aged ≥ 75 years, had incomplete data, or had vascular disease or any other chronic condition (except diabetes) recorded.

Results: Among the 45,291 men and 93,627 women aged 35-74 years, 70% of men and 81% of women reported taking no regular recreational physical activity, mean (SD) body mass index was 29.1 (4.9) kg/m² and 13% had previously-diagnosed diabetes. There were 12,605 deaths from any cause at ages 35-74 years, including 3368 from vascular causes. Physical activity at recruitment was associated with lower all-cause mortality risk in a dose-dependent manner. Compared with those reporting no regular physical activity, those exercising ≥ 60 minutes per activity session had 28% lower all-cause mortality at ages 35-74 years (HR=0.72; 95% CI 0.67-0.78), including 22% lower vascular mortality (RR 0.78, 0.68-0.90). Associations were similar for the different types of vascular mortality and were similar in those with and without diabetes, so the absolute benefits of physical activity were larger in those with diabetes. Those who exercised for the longest durations per activity session had lower baseline blood pressure and a more favourable lipid profile than those who reported doing no regular recreational physical activity.

Conclusions: In this Mexican cohort, higher recreational physical activity was associated with a lower risk of premature death, with particularly high absolute benefits in those with diabetes.