Physical Activity Types, Variety, and Mortality: Results from Two Prospective Cohort Studies

Objective

To examine the associations of long term engagement in individual physical activities and physical activity variety with the risk of death.

Results

During 2 431 318 person years of follow-up, 38 847 deaths were recorded, with 9901 from cardiovascular disease, 10 719 from cancer, and 3159 from respiratory disease. Total physical activity and most individual physical activities, except for swimming, were associated with lower mortality with non-linear dose-response relations. The pooled multivariable adjusted hazard ratios for all cause mortality in the highest categories of physical activity levels, compared with the lowest, were 0.83 (95% confidence interval 0.80 to 0.85) for walking, 0.89 (0.85 to 0.94) for jogging, 0.87 (0.80 to 0.93) for running, 0.96 (0.93 to 0.99) for bicycling, 1.01 (0.97 to 1.05) for swimming, 0.85 (0.80 to 0.89) for tennis or squash, 0.90 (0.87 to 0.93) for climbing stairs, 0.86 (0.84 to 0.89) for rowing or callisthenics, and 0.87 (0.82 to 0.91) for weight training or resistance exercises. Higher physical activity variety was associated with lower mortality. After adjustment for total physical activity levels, participants in the group with the highest physical activity variety score (group 5), compared with those in the lowest group (group 1), had a 19% lower all cause mortality and 13-41% lower mortality from cardiovascular disease, cancer, respiratory disease, and other causes (all P for trend <0.001).

Conclusions

Habitual engagement in most types of physical activity was associated with lower mortality. The variety of physical activity was inversely associated with mortality, independent of total physical activity levels. Overall, these data support the notion that long term engagement in multiple types of physical activity may help extend the lifespan.

WHAT IS ALREADY KNOWN ON THIS TOPIC

Total physical activity levels have consistently been associated with lower mortality in a non-linear dose-response relation, but evidence for individual physical activities is limited

Previous studies have suggested that different types of physical activity may have distinct physiological effects

Whether long term engagement in multiple physical activities has additional benefits beyond total physical activity levels is unclear

WHAT THIS STUDY ADDS

Most individual physical activities were associated with lower mortality in a non-linear manner

The variety of physical activity was associated with lower mortality, independent of total physical activity levels

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE, OR POLICY

The findings support the notion that promoting engagement in a diverse range of physical activity types, alongside increasing total physical activity levels, may help reduce the risk of premature death

Choose the correct option according to the text.

1. The main objective of the study was to examine the association between physical activity and: the risk of death / the risk of hospitalization

2. Which activity did NOT show an association with lower mortality? bicycling / swimming

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3. The study recorded deaths from cardiovascular disease, cancer, respiratory disease, and: infectious diseases / other causes

4. After adjustment for total physical activity levels, participants with the highest activity variety score had: lower / similar mortality than those with the lowest score

5. Previous studies had already established that: total physical activity levels are associated with lower mortality / physical activity variety is more important than total activity levels

6. Before this study, the additional benefit of engaging in multiple activities was: unclear / well established

7. The authors state that physical activity variety was associated with lower mortality: only among highly active participants / regardless of total activity levels

8. According to the authors, the findings support promoting: a diverse range of physical activities together with increased activity levels / only the single most effective form of exercise

Let's analyse language… watch this video on HEDGING :

https://www.youtube.com/watch?v=_ZpzA1ieSHY

Now, choose the most appropriate research-style sentence

1. The findings **suggest / prove** that physical activity variety reduces mortality.

2. Engaging in multiple activities **may help extend lifespan / extends lifespan.**

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3. Previous studies suggested that different activities **have / may have** distinct physiological effects.

4. The evidence indicates that **swimming was not associated with lower mortality / swimming does not improve health.**

5. Physical activity variety **guarantees / appears to be associated with** lower mortality.

6. These results **demonstrate beyond doubt that diverse exercise habits reduce risk / support the notion that diverse exercise habits may reduce risk.**

7. The additional benefits of activity variety **are obvious / remain unclear.**

8. These findings **establish / tend to support** promoting a variety of physical activities.

🎧 Listening – Context

A physician is presenting and discussing the study during a journal club meeting.

Choose the correct option.

1. The researchers followed participants for more than **two hundred thousand / two million** person-years.

2. The authors were interested in whether different types of activity provided **additional benefits / identical outcomes.**

3. Swimming was described as the activity with **the strongest association / the notable exception.**

4. Participants engaging in a wider variety of activities tended to have **higher / lower** mortality rates.

5. The association remained after researchers adjusted for **total physical activity levels / age and sex only.**

6. The authors suggest that different activities may influence health through different **physiological mechanisms / reporting methods.**

7. The exact explanation for the findings are **uncertain / fully established**.

8. The study supports the idea that participating in several forms of physical activity may help improve **long-term health outcomes / short-term athletic performance.**

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