


Muscle strengthening activities for lowering disease risk



Implication for clinical practice: systematic review and meta-analysis of prospective cohort studies

Muscle strengthening activities can significantly reduce the risk of all-cause mortality and major non-communicable diseases. They should be incorporated into comprehensive health and lifestyle advice for all patients.

Context

With a significant number of adults reported to not be meeting guidelines for both aerobic and muscle strengthening activities, physical inactivity has become a global public health issue. Several national and international physical activity guidelines recommend regular muscle strengthening activities for adults. This research aimed to quantify the associations between muscle-strengthening activities and the risk of non-communicable diseases and mortality in adults, independent of aerobic activities.

Methods

- A systematic literature research was conducted from the inception of the database to 25 October 2020.
- Chosen studies focused on the association between muscle-strengthening activities and health outcomes among adults aged ≥ 18 years.
- The quality of the studies was assessed using a modification of the Newcastle-Ottawa Scale for Quality Assessment of Prospective Cohort Studies.
- Following a thorough screening process, 16 studies were included in the meta-analysis.

Results

- Muscle strengthening activities were associated with a 10-17% lower risk of cardiovascular disease, total cancer, diabetes, lung cancer and all-cause mortality, independent of aerobic activities among adults.
- The maximum risk reduction for all-cause mortality, cardiovascular disease and total cancer was obtained at approximately 30-60 min/week of muscle strengthening activities, and the risk of diabetes sharply decreased until 60 min/week of muscle strengthening activities, followed by a gradual decrease.

Reference

[Momma, H., Kawakami, R., Honda, T., & Sawada, S. S. \(2022\). Muscle-strengthening activities are associated with lower risk and mortality in major non-communicable diseases: a systematic review and meta-analysis of cohort studies. British Journal of Sports Medicine.](#)