Abstract

A lot of epidemiological studies suggest that physical activity may prevent several types of non-communicable diseases and premature death. However, there are not many studies among the Asian population. We studied the relationship between cardiorespiratory fitness (CRF), an objective marker of physical activity, and morbidity and mortality among Japanese male workers.

Cohort study among Japanese workers

We are following Japanese male employees. The number of participants is approximately 9,000. All participants underwent an exercise test to assess CRF. We followed up for over 20 years. We used Cox proportional hazards models to investigate the relationship between CRF, and morbidity and mortality, adjusted for several potential confounding factors such as age, smoking habit, drinking habit and so on.

Cardiorespiratory fitness and morbidity

We investigated the relationship between CRF and the incidence of hypertension and type 2 diabetes. Men in the highest CRF group had a 47% lower risk of hypertension when compared with men in the lowest CRF group. Also, Men in the high CRF group or CRF improved group had a lower risk of type 2 diabetes when compared with men in the low CRF group.

Cardiorespiratory fitness and mortality

We investigated the relationship between CRF and all-cause mortality and cancer mortality. The group with the highest CRF had a 61% lower risk of all-cause mortality and 59% lower risk of cancer mortality than the group with the lowest CRF.

These studies provide support for the hypothesis that low physical fitness is an important risk factor for several types of non-communicable diseases and mortality.

Key words: epidemiology, cohort study, non-communicable disease, premature death
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