

Inverse association between milk intake frequency and all-cause mortality in the JACC study

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Abstract

Background/Aim: Reported association between milk intake and all-cause mortality has been inconsistent. A few studies observed an inverse relationship while others reported a null association. Therefore, we examined the association of milk intake with the risk of all-cause and cause-specific mortality in a large-scale prospective study, the Japan Collaborative Cohort Study for Evaluation of Cancer Risk (JACC Study).

Method: A total of 90,200 Japanese men and women aged 40-79 years were followed from 1988 through 2009 (median follow-up: 18.8 years). Hazard ratios (HRs) and 95% confidence intervals (95% CIs) of all-cause and total cancer, and total circulatory diseases mortality by milk intake frequency taking the lowest intake frequency (never drank) as the reference were calculated from Cox proportional hazard regression model adjusted for 5-year age categories, body mass index, smoking status, drinking status, exercise habit, sleeping duration and disease history of hypertension, diabetes, cancer, myocardial infarction, and stroke, in men and women, separately.

Results: A total of 21,485 deaths (34.4% were from cancer and 29.9% were from circulatory diseases) were documented during the follow-up period. Multivariate-adjusted all-cause mortality HRs of each milk intake frequency categories were significantly lower than 1 in both men and women compared to those who never drank milk. The linear trend of the HRs for all-cause mortality according to the increase

in milk intake frequency was significant only in women. Furthermore, men who drank milk intake 1-2 times/month had a significantly lower risk of cancer mortality compared to those who never drank (HR: 0.83, 95% CI: 0.73 – 0.94). Women who drank milk 3-4 times/week had a significantly lower risk of circulatory disease mortality compare to those who never drank (HR, 0.87; 95% CI, 0.76 – 0.99).

Conclusion: Milk intake was associated with lower risk of all-cause mortality in both men and women. These observed associations were due to lower cancer mortality in men and lower circulatory diseases mortality in women associated with milk intake.