

Rice intake and colorectal cancer in Japanese men and women: the Japan Public Health Center-based prospective Study (JPHC Study)

多目的コホート研究による日本人男女における米飯摂取と大腸がんの関連に関する研究

Abstract

Objective: Colorectal cancer (CRC) incidence rate increased rapidly in Japan post-World War II until the mid 1990s, currently ranking among the highest rates in the world. Environmental factors such as physical inactivity, body and abdominal fatness, red and processed meat and excess alcohol consumption may provide some explanation for these changes. We examined the association between rice intake and colorectal cancer risk in comparison to bread, noodles and cereal among Japanese adults enrolled in the Japan Public Health Center-based prospective Study (JPHC Study).

Methods: 73,501 Japanese men (34,559) and women (38,942) were followed up from 1995-1999 (5-year follow-up survey) until the end of 2008 with an average duration of 11 years. During 801,937 person-years of follow-up, we identified 1,276 new colorectal cancer cases (777 and 499 cases for men and women, respectively). Hazard ratios (HRs) and 95% confidence intervals (95% CIs) for cancer were calculated by Cox proportional hazards modeling.

Results: In general, no significant association was observed between the highest and lowest quartile of rice intake and the risk of colorectal cancer and its subsites in men 0.77 (95% CI, 0.56-1.07) and women 1.10 (95% CI, 0.71-1.68), except a non-

significant inverse trend observed between rice intake and rectal cancer in men 0.61 (95% CI, 0.35-1.07).

Conclusion: Our findings suggest that the consumption of rice does not have a substantial impact on the risk of colorectal cancer in the Japanese population.

Keywords: Japan; cohort study; colorectal cancer; rice; carbohydrate