

## **Food, Nutrition and Cancer Prevention: the Current Status and Perspective**

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### **< Summary >**

The associations between modifiable risk/protective factors and cancer should be firstly assessed for its causality (hazard identification) to establish effective cancer prevention strategy. Its evaluation should be based on systematic reviews for evidence from epidemiological studies as well as other relevant data from animal models and in-vitro experiments. We have evidence-based recommendations on highlighting highly probable factors provided by international agencies and evaluations (risk assessment) based on evidence among Japanese population (considering real situations of risk/protective factor exposure). Cancer-specific diet-related recommendations for Japanese cited so far are moderate alcohol drinking if any; physical exercise, optimal weight maintenance, low salt, intake of fruit and vegetables and restriction of processed and red meats. There are currently various foods and nutrients with potential for cancer prevention and without sufficient evidence, such as dietary fiber, coffee, green tea and isoflavones. A body of evidence from large-scale placebo-controlled double-blinded randomized controlled trials showed that supplementations of anti-oxidant nutrients such as beta-carotene, vitamin E, vitamin C and selenium were not effective to reduce the subsequent cancer incidence with some exceptions.

The evidence from epidemiological studies shows that the dose-relationship between intake of potentially preventive agent and risk reduction is not always linear. Development of effective cancer prevention strategy considering dose-response relationship, intake assessment and evidence of absolute risk (if any)-benefit balance from epidemiological studies are warranted.