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# *Dietary Patterns and Cancer Risk: Insights from the Latest Evidence*

*Johnalisa L. Bulasito*
*Biliran Province State University School of Teacher Education Biliran Campus, 6566 Philippines*
*Corresponding email: johnalisa.bulasito@bipsu.edu.ph*

Cancer remains one of the leading causes of death worldwide (Ferlay et al., 2020), and while genetics and lifestyle choices play important roles, everyday environments also significantly influence risks. Homes, often perceived as safe spaces, can harbor hidden cancer-causing substances that affect the well-being of families. Recognizing these risks and educating communities about them is crucial to fostering prevention and promoting healthier living.

The conversation about cancer risk often begins with genetics but rarely ends there. Increasingly, researchers are uncovering how our dietary patterns and daily environments interact with biological processes that influence cancer development. From what we eat to how we store and prepare food, small habits accumulate over time, shaping our overall exposure to carcinogenic compounds.

There is also a striking disparity in how these risks—and the means to address them—are distributed across the globe. Comprehensive cancer treatment is available in more than 90% of high-income countries, but in less than 15% of low-income nations (WHO, 2022). This inequality makes prevention and education even more essential, particularly in regions where access to treatment remains limited.

Decades of nutritional research have drawn connections between diet and cancer—not just through single nutrients but through broader eating patterns. Diets high in processed meats, refined sugars, and saturated fats have been consistently associated with higher cancer risks, especially of the colon, pancreas, and breast (World Cancer Research Fund, 2018). Conversely, diets rich in fruits, vegetables, legumes, and whole grains provide antioxidants and phytochemicals that help protect against DNA damage.

The Mediterranean diet, for example, emphasizes olive oil, fish, and fresh produce. Studies suggest it may reduce overall cancer risk due to its anti-inflammatory and antioxidant properties (Grosso et al., 2017). Similarly, plant-forward diets common

in Asia—high in fiber, soy, and green tea—show protective benefits, underscoring that prevention is as much about cultural dietary wisdom as it is about modern science.

Many households unknowingly introduce harmful chemicals into their daily environment. Cleaning products, air fresheners, and insecticides may contain volatile organic compounds (VOCs) such as formaldehyde and benzene, both linked to increased cancer risks (WHO, 2022). Even plastics and food containers can release substances like bisphenol A (BPA) when exposed to heat.

Small, informed choices—such as using BPA-free containers, choosing natural cleaning products, or avoiding unnecessary air fresheners—can reduce exposure dramatically. Public awareness campaigns that translate scientific findings into simple, practical advice can empower families to create safer homes without unnecessary alarm.

How food is prepared and stored matters as much as what is eaten. Charred or smoked meats, while flavorful, may contain polycyclic aromatic hydrocarbons (PAHs) and heterocyclic amines (HCAs)—both associated with increased cancer risks (IARC, 2015). Likewise, mold-contaminated foods can produce aflatoxins, potent carcinogens particularly harmful to the liver.

Educational initiatives that teach safe cooking methods, proper food storage, and balanced diet planning can help communities protect themselves. Even simple habits—like marinating meats before grilling, using moderate heat, and avoiding excessive charring—can make a measurable difference.

The foundation of cancer prevention is not fear, but knowledge. Schools, public health organizations, and media outlets share the responsibility of making science understandable and actionable. Integrating health literacy into basic education helps children and families recognize hidden risks in their surroundings. Community workshops, social media campaigns, and storytelling-based advocacy can translate research into relatable action.

Ultimately, prevention is a shared social project—linking science, education, policy, and personal responsibility. Cancer prevention does not begin in the hospital; it begins in the home, the market, and the kitchen.

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