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Dietary Intakes, Cooking Methods, and Vitamin Supplementation among Women at High Risk of Pregnancy-Induced Hypertension

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Statement of the Problem: Pregnancy-induced hypertension (PIH) is a leading cause of adverse maternal and fetal outcomes. Evidence reveals that maternal dietary intakes and vitamin supplements may play a significant role in the cost-effectiveness and risk-benefit in preventing the development of PIH, although its precise role remains unclear. The purpose of this study is to examine the association between maternal dietary components, cooking methods, and prenatal vitamin use on PIH risk in Taiwan. **Methodology & Theoretical Orientation:** A cross-sectional study was conducted using purposive sampling. A total of 70 participants in the third trimester of pregnancy (32 with a high risk of PIH and 38 healthy women) were enrolled from an academic medical center in northern Taiwan. Data were collected using self-administered structured questionnaires including demographic characteristics, usual dietary intake, cooking methods, food groups, and prenatal vitamin consumption. Multiple logistic regression analysis was used to estimate the association between factors with the risk of PIH. **Findings:** High intake of protein (fish, eggs, beans, and meat), high-fat/sugar foods, and daily prenatal vitamins (magnesium, iron, zinc, iodine, folic acid, and vitamins B2 and B6) were not associated with the risk of PIH. Increased levels of vitamins B1, B12, and D were associated with reducing the risk of PIH (OR = 3.2, 95% CI 1.04-9.88; OR = 3.03, 95% CI 1.03-8.93, respectively). The cooking method of pan-frying was associated with a higher risk for PIH (OR = 3.86, 95% CI 1.07-11.86). Participants who reported with daily caffeine consumption had increased odds of developing PIH compared to no consumption (<100 mg of caffeine/day, OR = 7, 95% CI 1.34-36.68; >200 mg of caffeine/day, OR = 25, 95% CI 1.80-54.69, respectively). **Conclusion & Significance:** Increasing the consumption of vitamins B1, B12, and D, decreasing caffeine consumption, and cooking pan-frying foods may reduce the risk of PIH. Recommendations are made for pregnant women, especially for those with high-risk pregnancies that would help lower maternal mortality and improve maternal, newborn, and women's health.

Keywords: Pregnancy-Induced Hypertension (PIH); Dietary Intakes; Cooking Methods; Vitamin Supplementation

Recent Publications

1. Huang LW, Wang S. Cancer Clinical Trial Enrollment in Older vs Younger Adults. JAMA network open 2022. PMID: 36215075
2. Huang LW, Sheng Y, Andreadis C, Logan AC, Mannis GN, Smith CC, Gaensler KML, Martin TG, Damon LE, Huang CY, Olin RL. Patterns and predictors of functional decline after alloHCT in older adults. 2022. PMID: 35247612
3. Akhtar OS, Huang LW, Tsang M, Torika P, Loh KP, Morrison VA, Cordoba R. Geriatric assessment in older adults with non-Hodgkin lymphoma: A Young International Society of Geriatric Oncology (YSIOG) review paper. Journal of geriatric oncology 2022. PMID: 35216939

Biography

As an Assistant Professor in Hematology/Oncology based at the San Francisco VA with dual training in aging research, Li Wen Huang is passionate about improving care for older patients with cancer. Her research focuses on understanding the interactions between cancer, cancer therapy, and geriatric syndromes such as cognitive impairment. Her ultimate goal is to develop ways to improve the care of older adults with cancer and cognitive impairment.

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