RESULTS FROM THE 2009 CALIFORNIA WOMEN’S HEALTH SURVEY

Food Security Status and the Prevalence of Diet-Related Chronic Diseases Among California Women, 2009

California Department of Public Health
Cancer Control Branch
Network for a Healthy California
Public Health Institute

Public Health Message:
Nearly one third of all California women were food insecure. High blood pressure remained positively associated with food insecurity even when demographics were controlled. Since self-reported diabetes, high cholesterol, and heart disease are likely underestimated among women with poor access to health care, a positive association with food insecurity may be underestimated. Economic, educational, and environmental interventions are needed to better ensure that the most nutritionally vulnerable women have access to affordable healthy food to help them manage and reduce diet-related, chronic diseases.

This analysis was limited to the 3,530 women, younger than age 65, participating in the 2009 California Women’s Health Survey who completed the USDA’s standardized six-item validated short form of the food security scale. Responses were used to categorize women into three groups: food secure, low food security, and very low food security. Women participating in the survey were asked: Have you ever been diagnosed with any of the following: diabetes, heart disease, high blood pressure, or high cholesterol? Women diagnosed with gestational diabetes were excluded from the diabetes-related analysis. Self-reported height and weight were used to identify body mass index (BMI). Results were stratified by age, race/ethnicity, education, BMI, and household income by ratio to Federal Poverty Guidelines (FPG) as follows: < 100 percent FPG, 100-249 percent FPG, and >250 percent FPG). Responses were weighted by age and race/ethnicity to reflect the 2000 California adult female population.

Bivariate analysis was conducted to assess the association between food security status and the prevalence of self-reported chronic disease. Multivariate analysis was used to further control for the women’s age, race/ethnicity, three income categories, education, and BMI. All reported findings were statistically significant at P less than .001 unless otherwise specified.

California women under age 65 reported the following rates of chronic disease: non-gestational diabetes, 5.5 percent; heart disease, 2.7 percent; high blood pressure, 16.1 percent; and high cholesterol, 18.2 percent. Because these rates were not clinically determined, they likely reflect under-reporting of actual chronic disease prevalence especially among women with limited access to health care. While the majority of women lived in households classified as food secure (69.3 percent), nearly one third reported being food insecure. Almost one in five (19.7 percent) lived in households having low food security, and more than one in ten (11.1 percent) had very low food security. The reported prevalence of each of the four diet-related chronic diseases was highest
Food Security Status and the Prevalence of Diet-Related Chronic Diseases Among California Women, 2009

California Department of Public Health
Cancer Control Branch
Network for a Healthy California
Public Health Institute

among women having very low food security (Figure 1).

Figure 1

Prevalence of Diet-Related Chronic Diseases by Food Security Status Among California Women, 2009

* Food insecurity status was positive and significant ($P < .05$) even after controlling for women's age, income level, education level, and race/ethnicity.

Source: California Women's Health Survey, 2009

Diabetes
In the simple bivariate analysis, food insecurity was positively and significantly associated ($P < .01$) with non-gestational diabetes, with a rate of 7.9 percent among women living in households with very low food security and 7.3 percent among women with low food security vs. 4.6 percent among food secure women (Figure 1). After controlling for other demographic factors with the adjusted model, food security status was no longer significantly associated with non-gestational diabetes, while older age, higher BMI, race/ethnicity, and lower education level were significantly related ($P < .01$).

Heart Disease
The reported prevalence of diagnosed heart disease was not significantly different across the three food security groups: 4.3 percent among women classified as very low food security; 2.7 percent among women living in households with low food security; and 2.5 percent among food secure women (Figure 1). With the adjusted model, food security status was not significantly different across the groups of women; however, income level ($P < .01$), education level ($P < .01$), and age were each significantly associated with heart disease in the expected direction.
Food Security Status and the Prevalence of Diet-Related Chronic Diseases Among California Women, 2009

California Department of Public Health
Cancer Control Branch
Network for a Healthy California
Public Health Institute

High Blood Pressure
The reported prevalence of diagnosed high blood pressure was significantly different by food security status, with a rate of 21.7 percent among women classified as very low food security; 14.3 percent among women living in households with low food security; and 15.7 percent among food secure women ($P < .05$). Even with the adjusted model, food insecurity status was positively and significantly related to high blood pressure ($P < .05$), as were older age and higher BMI.

High Cholesterol
The reported prevalence of diagnosed high cholesterol was significantly different by food security status, with a rate of 24.3 percent among women classified as very low food security; 18.9 percent among women living in households with low food security; and 17.3 percent among food secure women ($P < .05$). With the adjusted model, food security status was no longer significantly associated with high cholesterol although age and BMI were positively and significantly related.


Submitted by: Barbara MkNelly, M.S., Sharon B. Sugerman, M.S., R.D., and Patrick Mitchell, Dr.P.H., California Department of Public Health, Cancer Control Branch, Public Health Institute, (916) 552-9938, Barbara.MkNelly@cdph.ca.gov