2011 SODIUM REDUCTION IN COMMUNITIES
SHAWNEE COUNTY SURVEY

METHODS AND KEY FINDINGS

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Background

• High blood pressure is a major risk factor for cardiovascular disease (CVD) and contributes to nearly half of all CVD-related deaths, including stroke, in the U.S. (1).

• Research suggests that even small reductions in sodium intake may lower blood pressure, help prevent the onset of hypertension or help control blood pressure among hypertensive adults (2).

• The 2010 U.S. Dietary Guidelines currently recommend limiting sodium to less than 2,300 mg per day.
  – Certain persons should limit their sodium intake to 1,500 mg per day, including adults 51 years or older; African Americans; and persons with high blood pressure, diabetes, or chronic kidney disease (3).

Background

- Nationally, Americans eat on average 3,300 mg of sodium a day (4).

- 95.0 percent of U.S. adults aged 18-50 years with a sodium recommendation of <2,300 mg/day consume ≥ 2,300 mg/day, while 99.4 percent of those with a sodium recommendation of 1,500 mg/day consume >1,500 mg/day (5).

- According to the CDC, most of the sodium we eat comes from processed foods and foods prepared in restaurants (6).
Background

• In 2011, KDHE was awarded a cooperative agreement from the CDC as part of the Sodium Reduction in Communities Program to implement community-based interventions to reduce sodium intake among Shawnee County, Kansas residents over a three year period.

• As part of this initiative, the 2011 Sodium Reduction in Communities Shawnee County Survey was conducted to collect data on the prevalence of high blood pressure, sodium intake, and knowledge and behaviors related to sodium consumption among Shawnee County adults.

• The survey was designed to help guide program development and evaluation.
Methods: Telephone Interview

- The random-digit-dial landline telephone interview component of the survey was conducted within the KDHE and utilized the Kansas BRFSS design.

- Survey questions were adapted from BRFSS, the National Health and Nutrition Examination Survey (NHANES), the Kansas Cardiovascular Health Examination Survey (CVHES), and other national and state surveys.
Methods: Clinic Assessment

- Participants who completed telephone interviews were then scheduled for an appointment to measure their height, weight and blood pressure at the Shawnee County Health Agency facility in Topeka, Kansas.

- The NHANES anthropomorphic and blood pressure measurement protocols were used for this survey component (7,8).

Methods: Dietary Recall

- After measurement of height, weight and blood pressure, participants completed the ASA24 interview instrument at the health agency with assistance from project staff.

- The ASA24 is a web-based interview tool created by the National Cancer Institute to estimate the calories and nutrient intake of an individual respondent over a 24-hour period (9).

- Nutrient intake was calculated directly by the ASA24 statistical system and is based on the United States Department of Agriculture Food and Nutrient Database for Dietary Surveys (FNDDS). FNDDS is a database of foods, their nutrient values, and the gram weights for typical food portions.

- Participants were each provided a $25 gift card after completing all three survey components.

Methods: Analyses

- Data from all three survey components were combined and weighted using the iterative proportional fitting ("raking") method to be representative of the population of Shawnee County adults 18 years and older.

- Weighted prevalence estimates and means were computed for hypertension status, sodium intake and sodium knowledge and dietary behavior indicators.
Results

• A total of 834 Shawnee County adults completed the telephone interview; of those, 695 (83%) attended clinic visits to complete the other two survey components.
Results

• Approximately one-third (34.3%) of adults had hypertension based on clinical measures or current use of blood pressure lowering medication.

• This estimate was consistent with participant self-report of ever being diagnosed with high blood pressure (34.9%).

• The prevalence of hypertension in Shawnee County was significantly higher among:
  – Adults age 65 years and older (61.4%) as compared to those 18 to 64 years (28.2%)
  – Adults aged 18 years and older whose annual household income is less than $50,000 (44.1%) as compared to those whose annual household income is $50,000 or greater (25.0%)
Results

• Mean sodium intake among Shawnee County adults was 3,508 mg/day.

• Mean sodium intake was significantly higher among:
  – Men as compared to women (4,141 mg/day vs. 2,931 mg/day)
  – Adults 18-64 years as compared to adults 65 years and older (3,648 mg/day vs. 2,891 mg/day)
Results

- Shawnee County adults ate, on average, 3.3 meals per week prepared outside the home.

- The percentage who ate >2 meals/week prepared outside the home was significantly higher among:
  - Men (52.3%) as compared to women (33.7%)
  - College graduates (55.0%) as compared to those with lower levels of education (38.2%)
Results

- Nearly 1 in 3 (30.0%) Shawnee County adults rarely or never used food labels when deciding which food products to purchase.

- Of those who used food labels when deciding which food products to purchase, approximately 1 in 3 (33.9%) rarely or never looked for information about sodium.

- The percentage who always or most of the time looked for info about sodium when using food labels was significantly higher among adults who self-reported ever being diagnosed with high blood pressure (51.8% vs. 35.3%).
Results

• 83.2% of adults strongly agree or agree that most of the sodium we eat comes from packaged, processed, store-bought, and restaurant foods.

• 93.0% think that a high salt diet could cause high blood pressure.

• 90.1% strongly agree or agree that reducing the amount of salt in your diet can reduce blood pressure.
Results

• 77.9% of Shawnee County adults with self-reported diagnosed high blood pressure are cutting down on salt to help lower or control their high blood pressure.

Figure 4. Percentage of Adults 18 Years and Older with Self-reported Diagnosed High Blood Pressure who Are Currently Taking Action to Help Lower or Control Their High Blood Pressure, Shawnee County, Kansas, 2011
Results

• 71.8% of Shawnee County adults with self-reported diagnosed high blood pressure have been advised by a doctor or other health professional to cut down on salt.
Discussion

- Prevalence of clinic-measured high blood pressure (34.3%) was consistent with prevalence of participant self-report of ever being diagnosed with high blood pressure (34.9%).

- Prevalence of high blood pressure among Shawnee County adults is similar to national estimates (30.4%) (10).

- Mean sodium intake among Shawnee County residents (3,508 mg/day) is also consistent with national estimates of sodium intake (3,300 mg/day) (4).

- Despite high knowledge regarding food sources of sodium and the link between sodium intake and high blood pressure, sodium intake among Shawnee County adults exceeds current recommendations.

Limitations

• Survey results do not apply to individuals without telephone service, those who reside on military bases or within institutions, or those who are unable to complete a telephone survey.

• Results are only based on sampled individuals with a landline telephone.

• Due to insufficient cell sizes, data were not analyzed by race/ethnic status.

• Estimates of mean sodium intake are based on a single 24-hour dietary recall per respondent. Ideally, estimates should be based on averages obtained from two 24-hour dietary recalls, which is the methodology utilized by the NHANES (11).

Conclusion

• The 2011 Sodium Reduction in Communities Shawnee County Survey highlights a unique method for collecting local-level data to inform and evaluate community-level sodium reduction interventions.

• A follow-up to the 2011 Sodium Reduction in Communities Shawnee County Survey in the future can provide valuable information regarding long-term impact at the county level. However, future administration of the survey is tentative and dependent on available resources.
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Questions