



Champions for Change

Arizona Nutrition Network

Arizona Nutrition Network Evaluation

FY 2009

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Introduction

The Arizona Nutrition Network is a public and private partnership led by the Arizona Department of Health Services' Bureau of Nutrition and Physical Activity that are committed to promoting behavior change among the Supplemental Nutrition Assistance Program (SNAP) eligible population in Arizona. The purpose of this evaluation is to investigate the components of behavior change in the SNAP eligible population as a result of Arizona Nutrition Network messages and education.

The Supplemental Nutrition Assistance Program provides supplemental food purchasing assistance for people at or below 130% of the federal poverty level (FPL). In Arizona, 14 percent of the population was living at or below 130% of the federal poverty level in 2000. As of October 2009, almost one million people in Arizona were receiving SNAP benefits. Increasing by 60 percent since the previous year, SNAP issuance in Arizona exceeds \$124 million per month and continues to grow.

The objectives of the Arizona Nutrition Network focus on maintaining a healthy weight, increasing fruit and vegetable consumption, increasing low fat and fat free milk consumption, and increasing food security. Secondary goals of the Network include increasing the initiation and duration of breastfeeding, increasing folic acid consumption in pregnant women, and increasing physical activity.

The goals of the Network evaluation are to track the health behaviors of the SNAP eligible population and how they change over time, and to explore the differences by sub-populations.

Methods

Arizona Nutrition Network Evaluation surveys were conducted at a weighted random sample of State Supplemental Nutrition Program for Women, Infants, and Children (WIC) and Arizona Department of Economic Security (DES) offices throughout Arizona. A bilingual data collector asked participants to complete a survey while waiting for services provided at the location. A total of 970 surveys were conducted at 18 DES and 11 WIC sites. Participants who completed a survey were given an incentive item containing SNAP education messages along with print materials such as the Fun Food News and harvest calendars.

The first half of the survey instrument is the Food Behavior Checklist, which was developed and validated by Dr. Townsend at the University of California, Davis. The survey was validated for a fourth grade reading level, low income, and multi-ethnic population. The survey is simple to use with the SNAP population and meets the requirements for a tool that is valid, reliable, internally consistent, is sensitive to small dietary changes, is easy to administer and is inexpensive to score. It was discovered that while the survey instrument collected data that was important to the evaluation, it did not ask all of the questions that the Network staff was interested in. The second half of the survey instrument includes additional questions from other validated tools, such as the Behavior Risk Factor Surveillance System, the Economic Research Service's Food

Behavior Questionnaire, The National Survey of Children's Health and the National Health and Nutrition Examination Survey.

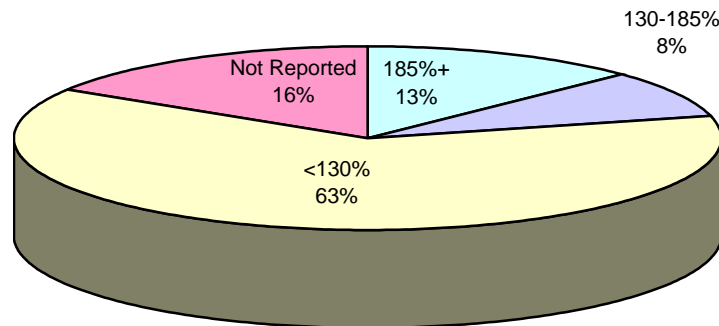
Results

Demographics

Of the 970 participants who filled out a survey, 925 (95%) reported their age. The average age of a respondent was 34.4 years, with a range from 14 to 77 years of age. Race and ethnicity were collected separately. Almost half (49%, n=474) of respondents were Hispanic, just under half (47%, n=454) were non-Hispanic, and four percent (n=42) did not report an ethnicity. Respondents were asked to report their race, with the opportunity to check all races that apply. Sixty-two percent (n=606) of respondents were White, eight percent (n=76) were American Indian, six percent (n=62) were Black, two percent (n=15) were Asian, and four people identified themselves as Hawaiian. Three-quarters of respondents (75%, n=728) were female, 22 percent (n=213) were male, and three percent (n=29) did not report their gender.

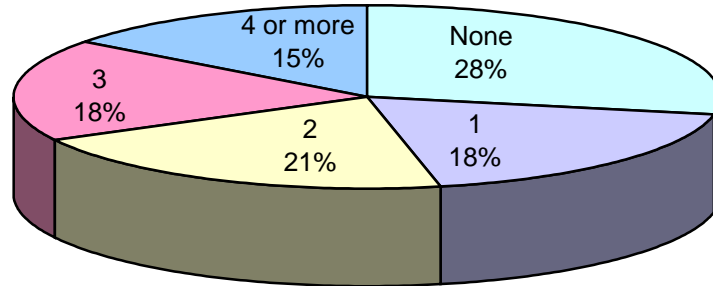
Respondents were asked to report the number of people living in their household and their household income. The federal poverty level for the household was calculated from this information. As Figure 1 shows, almost two-thirds (63%) of respondents were living at or below 130% of the federal poverty level, and another eight percent were living at 130-185% of the federal poverty level. Because the surveys were conducted at DES and WIC offices, it was surprising to find that one in ten (13%, n=126) respondents reported that they had incomes higher than 185% of the federal poverty level.

Figure 1. Percentage of Respondents by Poverty Level, AzNN Evaluation, 2009



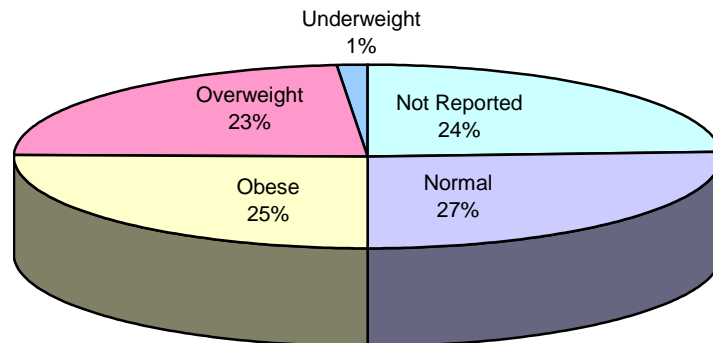
Respondents were asked to report the number of children age 18 and younger living in their household. Almost three-quarters (72%, n=697) of respondents reported that they had children age 18 and younger living in their household. One-third of respondents (35%, n=339) reported having children under the age of two living in their household, with an average of 1.4 children living in the household under the age of two (range 1 to 10). Almost two-thirds of respondents (61%, n=593) reported having children age two to 18 years of age living in their home, with an average of 2.2 children age two to 18 (range 1 to 8) living in their home. Figure 2 shows the percentage of respondents by the number of children age 18 and younger living in their home. As Figure 2 shows, one-third (33%, n=320) of respondents had 3 or more children living in their household.

Figure 2. Percentage of Respondents by Number of Children 18 and Younger Living in the Household, AzNN Evaluation, 2009



Respondents were asked to report their height and weight. Fourteen percent of respondents (n=132) reported that they did not know their weight, and a similar amount (16%, n=156) reported that they did not know their height. Eight percent (n=74) reported that they were pregnant. The respondent's Body Mass Index (BMI) was then calculated from this information for those respondents who reported their height and weight and were not pregnant. As Figure 3 shows, one-quarter of respondents did not report either their height or weight

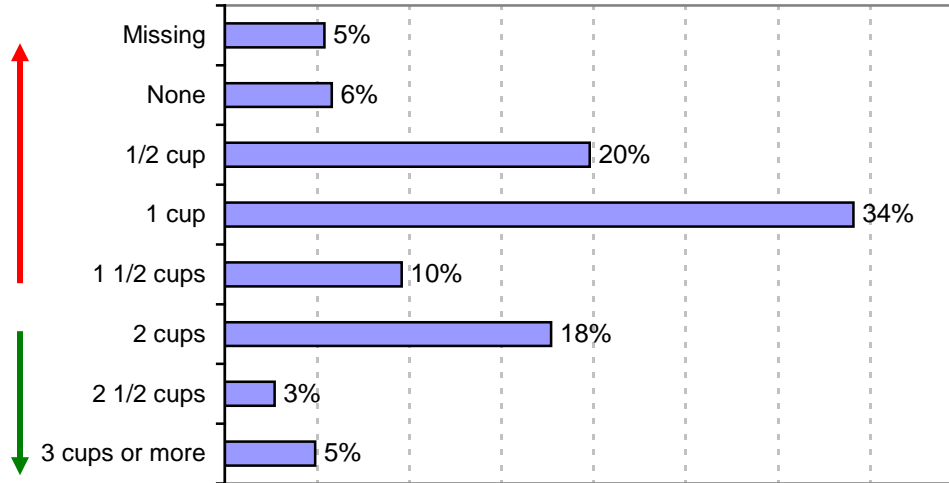
Figure 3. Percentage of Respondents by BMI Category, AzNN Evaluation, 2009



Fruit and Vegetable Consumption

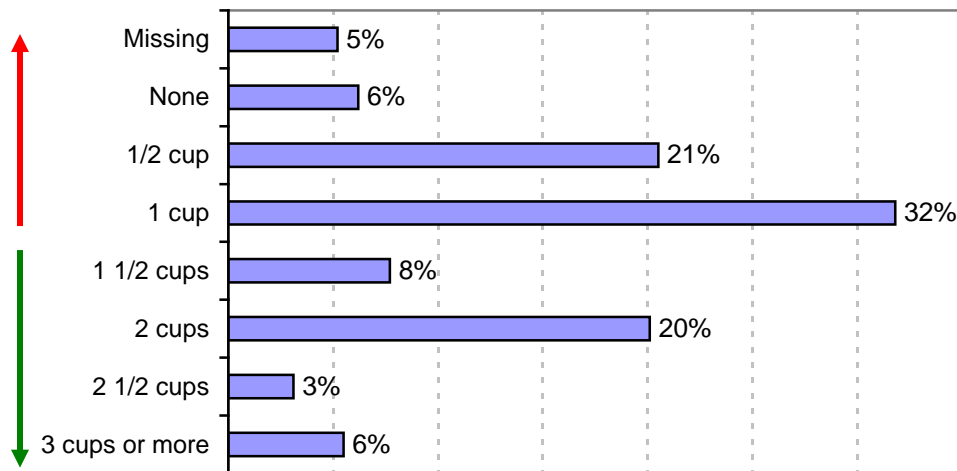
The United States Department of Agriculture (USDA) has revised the recommendations regarding the amount of fruits and vegetables a person needs.² Rather than having a one-size-fits-all recommendation, it is tailored to a person's gender, age and level of physical activity. In general the recommendation is that for women (depending on age and physical activity), the minimum recommended amount of vegetables to consume each day ranges from two to three cups per day, while the recommended amount for men ranges from two and a half to four cups per day. As Figure 4 shows, almost three-quarters (70%, n=672) of respondents reported eating less than two cups of vegetables per day, which is lower than the minimum recommended amount based on physical activity, gender and age.

Figure 4. Percentage of Respondents by Cups of Vegetables Consumed Each Day, AzNN Evaluation FY 2009



In general, the recommendation is that for women (depending on age and physical activity), the minimum recommended amount of fruit to consume ranges from one and a half to two cups per day, while the recommended amount for men ranges from two to two and a half cups per day. As Figure 5 shows, over half (59%, n=567) of respondents reported eating one cup or less of fruit each day, which is lower than the minimum recommended amount based on physical activity, gender and age.

Figure 5. Percentage of Respondents by Cups of Fruit Consumed Each Day, AzNN Evaluation FY 2009

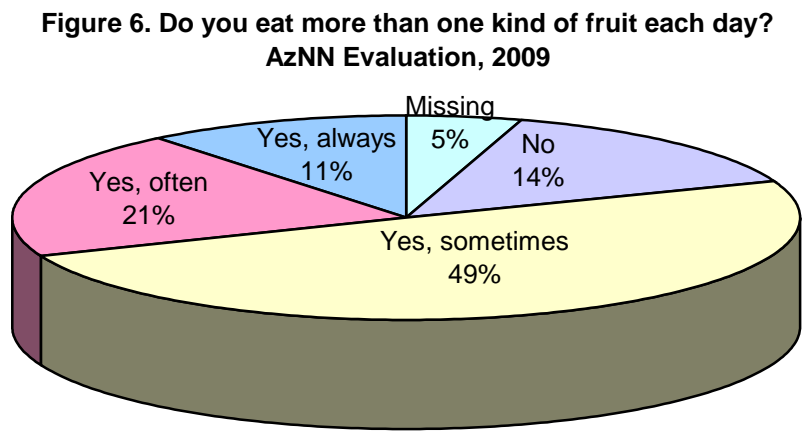


To look more in-depth at the comparison between the recommended amount versus the amount actually consumed, a proxy measure was used. The USDA recommendations take into account a person’s gender, age and physical activity status. Due to space and time limitations, the survey included just one question regarding physical activity – “In the past 30 days, other than your regular job, did you participate in any physical activities or exercise such as walking, running, aerobics, or gardening?” While this question does not exactly match the physical activity levels of the USDA recommendations, it does

provide a proxy measure for physical activity. The USDA’s recommendations define ‘less active’ as less than 30 minutes of physical activity per day, ‘moderately active’ as 30 to 60 minutes of physical activity per day, and ‘active’ as over 60 minutes per day. For the following analysis, if a respondent reported that they participated in any physical activities in the past 30 days, they were classified as ‘moderately active’. Using the respondent’s age and gender, along with their answer to the question regarding physical activity, the recommended amount of fruits and vegetables to be consumed was calculated for each respondent. This recommended amount was then compared to the actual amount that they reported each day. For respondents who answered all the questions to calculate the recommended number of fruits and vegetables per day (n=837 for fruit, n=835 for vegetables), over one-quarter (28%, n=235) of respondents met recommendations for fruit consumption, and nine percent (n=74) met the recommendations for vegetable consumption. An additional analysis was conducted to look at minimum requirements of fruit and vegetable consumption. This is consistent with 2008 Behavior Risk Factor Surveillance System estimates, in which 27% of low-income people consume five or more servings of fruits and vegetables per day.

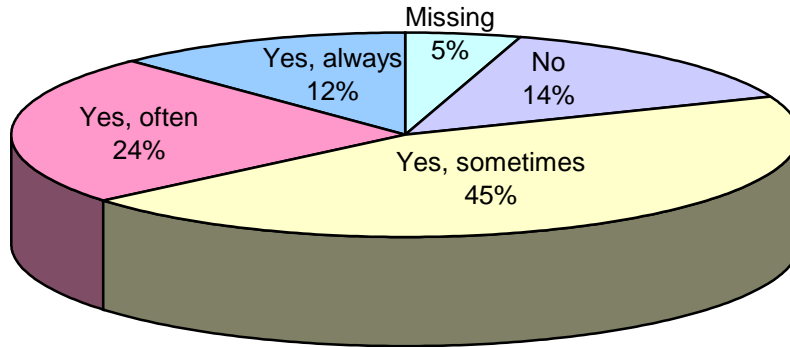
Participants were also asked how often they ate fruits or vegetables as snacks. Almost all (94%, n=913) participants reported that they ate fruits and vegetables as snacks, however just one in five (20%, n=192) reported eating fruits or vegetables as snacks every day. Forty-six percent (n=450) of respondents reported eating fruits or vegetables as snacks sometimes, and 28 percent (n=271) reported eating fruits or vegetables as snacks often. Participants were also asked if they had citrus fruit or juice during the past week. Three-quarters (76%, n=732) of participants reported that they had citrus fruit or citrus juice during the past week.

A series of questions were asked to gauge the variety of fruit and vegetables in respondents’ diets. As Figure 6 shows, one-third (32%, n=303) of respondents reported that they often or always ate more than one kind of fruit each day.



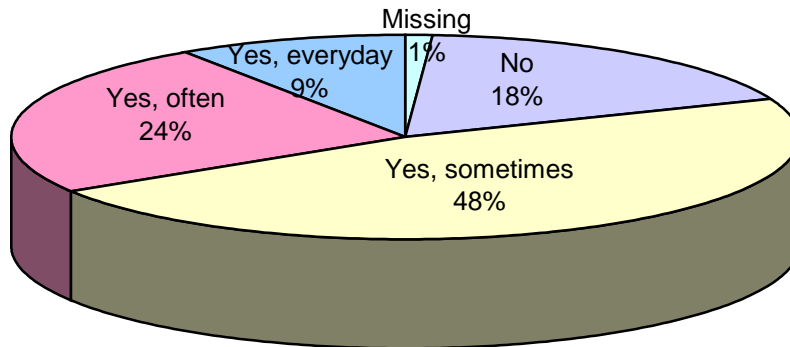
As Figure 7 shows, one-third (36%, n=350) of respondents reported often or always eating more than one kind of vegetable each day.

**Figure 7. Do you eat more than one kind of vegetable each day?
AzNN Evaluation, 2009**



Participants were also asked if they eat two or more vegetables at their main meal. As Figure 8 shows, one-third (33%, n=328) of respondents reported that they often or always ate two or more vegetables at their main meal.

**Figure 8. Do you eat two or more vegetables at your main meal?
AzNN Evaluation, 2009**



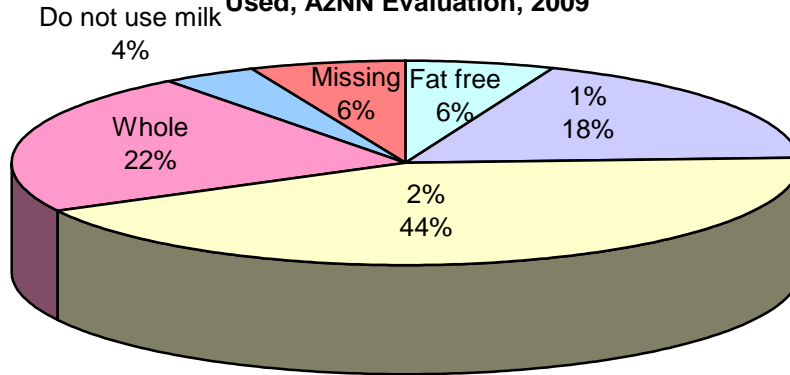
Whole Grain Consumption

Similar to fruit and vegetables, the USDA recommendations for grain consumption depend on a person’s gender, age and physical activity level.² In general, the USDA recommends that adults consume between six and eight ounces of grains per day, with at least half coming from whole grains. Respondents were asked to report how many times they ate whole grain cereals such as Cheerios, Raisin Bran, Shredded Wheat, Total, Wheaties or oatmeal in the past week. Fifteen percent (n=146) of respondents reported that they did not eat whole grain cereal. Over two-thirds (68%, n= 34) of respondents reported eating whole grain cereal during the past week. Participants reported eating whole grain cereal an average of 0.9 times per day, with a range from 0.14 to 10 times per day. One-quarter (26%, n=251) of respondents reported eating whole grain cereal at least once per day.

Dairy Consumption

The USDA recommends that adults consume three cups of milk and/or milk products per day.² The majority (83%, n=807) of respondents reported drinking milk or using it on their cereal during the past week. Participants were also asked if they drank milk. One-third (32%, n=313) of respondents reported that they drink milk everyday; just under one-quarter (23%, n=222) reported often drinking milk; over one-quarter (29%, n=280) reported sometimes drinking milk; and one in ten reported that they did not drink milk (11%, n=105). Five percent (n=50) of respondents did not answer the question. Figure 9 shows the percentage of respondents by the type of milk they usually drink or use. As Figure 9 shows, two-thirds (66%, n=636) of respondents reported using whole or 2% reduced fat milk, and one-quarter (24%, n=235) of respondents reported using 1% low fat or fat free milk. Ten percent of respondents (n=99) reported that they did not use milk or did not answer the question.

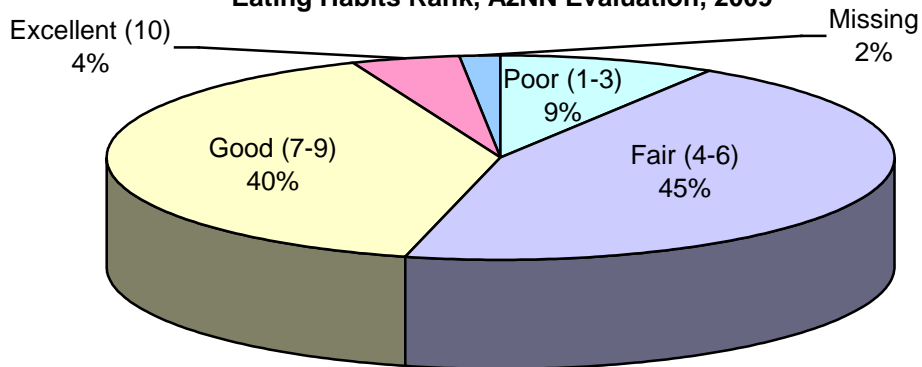
Figure 9. Percentage of Respondents by Type of Milk Usually Used, AzNN Evaluation, 2009



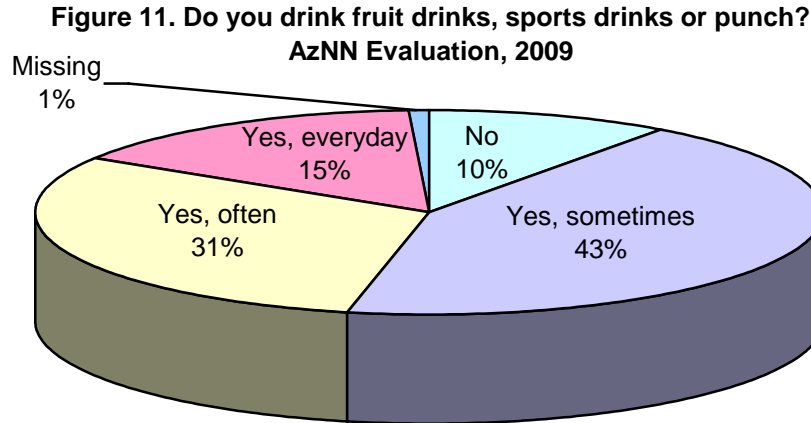
Diet Quality

Respondents were asked to rank their eating habits on a scale of one to ten, with 1=poor, 4=fair, 7=good, and 10=excellent. Of the 953 (98%) respondents who answered the question, the average rank was 5.8, which falls in the 'Fair' range. Figure 10 shows the percentage of respondents by how they ranked their eating habits. As the Figure shows, almost half (54%, n=523) of respondents ranked their eating habits as poor or fair, while a similar amount (44%, n=430) ranked their eating habits as good or excellent.

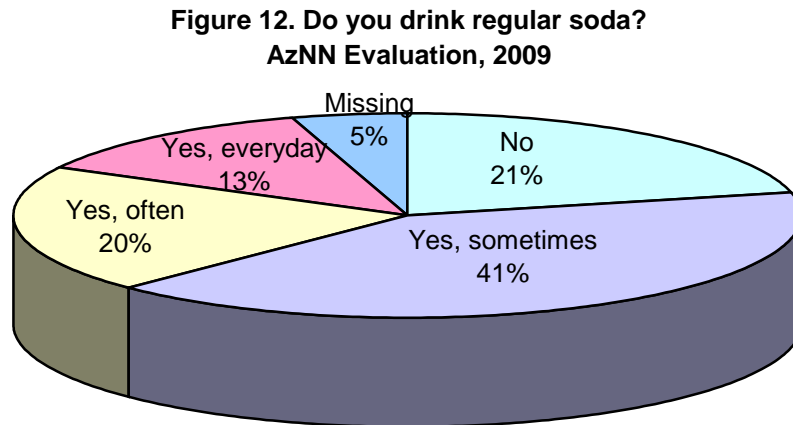
Figure 10. Percentage of Respondents by Self-Reported Eating Habits Rank, AzNN Evaluation, 2009



Respondents were asked questions related to dietary quality. Two questions were focused on added sugar in beverages. The majority (89%, n=864) of participants reported that they drank fruit drinks, sports drinks or punch. Almost half (43%, n=419) reported drinking these drinks sometimes, and a similar amount reported drinking these drinks often or every day (46%, n=445). Figure 11 shows the percentage of respondents by frequency of drinking fruit drinks, sports drinks or punch.

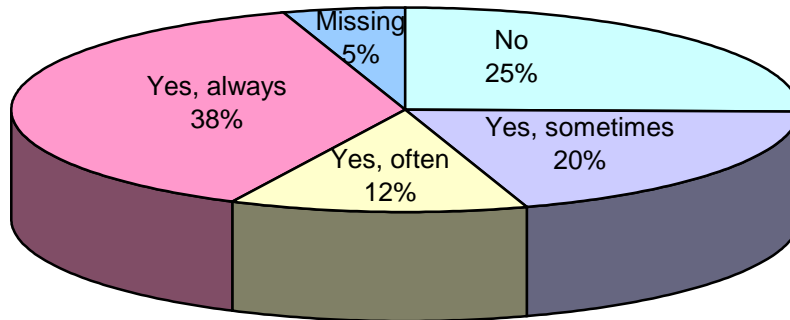


Three-quarters (74%, n=717) of participants reported drinking regular (non-diet) soda. Forty-one percent (n=399) of respondents reported sometimes drinking regular soda, while one-fifth (21%, n=208) reported not drinking regular soda at all. One-third (33%, n=318) of respondents reported drinking regular soda often or everyday. Figure 12 shows the percentage of respondents by frequency of drinking regular soda.



Respondents were asked if they take the skin off chicken before cooking or eating it. The purpose of this question was to assess a respondent's choice of lower-fat foods. Research related to the validity of the food behavior checklist (the first half of the survey) found that women who selected lower-fat foods were also more likely to consume fruits and vegetables.³ Figure 13 shows the percentage of respondents by frequency of whether or not they removed skin from chicken before cooking or consuming it. As Figure 13 shows, over one-third (38%, n=365) of respondents reported always taking the skin off chicken before cooking or consuming it, while one-quarter (25%, n=245) of respondents reported that they did not take the skin off the chicken before consuming it.

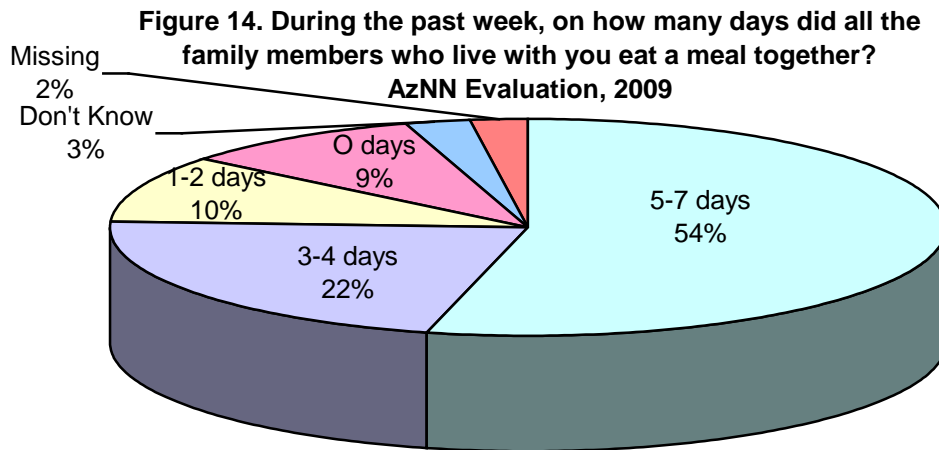
**Figure 13. Do you take the skin off chicken?
AzNN Evaluation, 2009**



Respondents were also asked if they had eaten fish during the past week. Well over half (58%, n=563) of respondents reported that they had not had fish during the past week, and one-third (37%, n=362) of respondents reported that they had eaten fish during the past week. Five percent (n=45) of respondents did not answer the question.

Family Meals

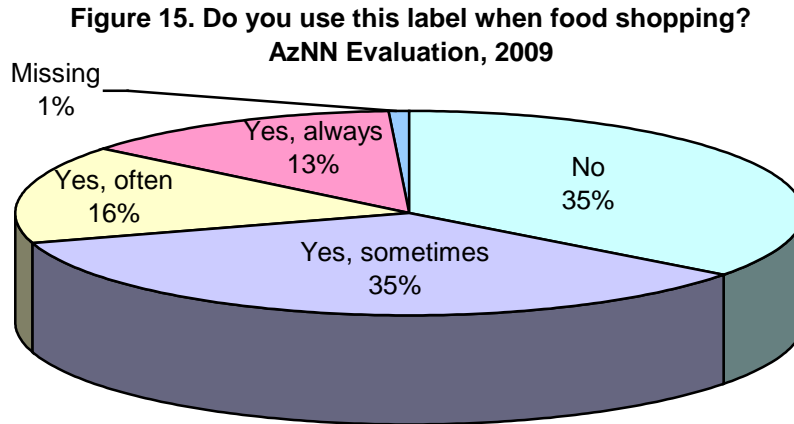
Research has shown that family meals are an important factor in nutrition and eating behaviors of children and adolescents.⁴ Additionally, research has shown that family meals are associated with increased consumption of fruits and vegetables, and dairy products. Over half (54%, n=523) of respondents reported eating a meal with the entire family five to seven days per week. Figure 14 shows the percentage of respondents by the number of days in the past week that all the family members in the household ate a meal together.



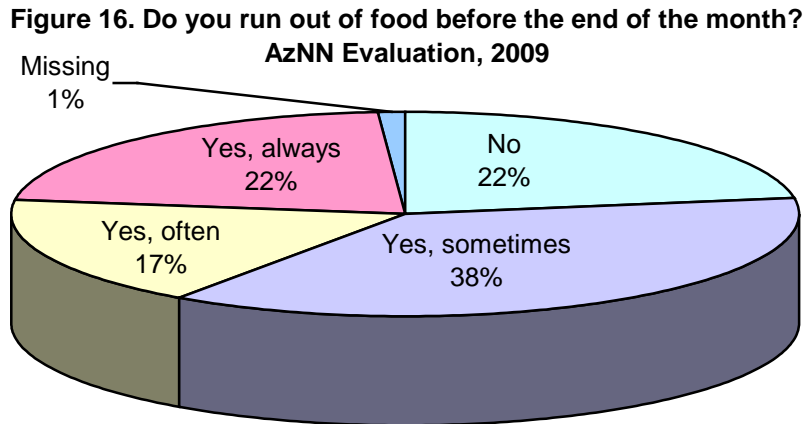
Shopping Behaviors/Food Security

Respondents were shown a picture of a woman shopping using the nutrition facts label on a box of cereal and asked 'Do you use this label when food shopping?'. Two-thirds (64%, n=619) of respondents reported using the nutrition facts label when shopping. One third (35%, n=342) reported that they did not use the nutrition facts label when shopping.

Figure 15 shows the percentage of respondents by frequency of using the nutrition facts label when shopping.



Respondents were asked how often they run out of food before the end of the month. Over three-quarters (77%, n=740) of participants reported that they ran out of food before the end of the month. Over one-third (39%, n=378) of respondents reported that they often or always ran out of food before the end of the month. Figure 16 shows the percentage of respondents by frequency that they run out of food before the end of the month.



Screen Time

The American Academy of Pediatrics recommends that children age two to 18 spend two or less hours of “screen time” per day.⁵ Screen time is defined as time spent in front of a screen watching television, playing games or watching videos. Respondents who indicated that they had children between these ages were asked to report the number of hours that their oldest child watched television, played video games, or played computer games on the prior day. Of the 429 respondents who indicated that they had children age two to 18 living in their household, over one-quarter (28%, n=164) did not know how much time their child had spent on the previous day in front of a screen. For the 265 respondents (62%) who knew the amount of time their child spent in front of a screen, the average number of hours the oldest child in the house spent in front of a screen was 2.71 hours, with a range of zero hours to 20 hours. Almost half (46%, n=196) of respondents

reported that the oldest child in their household spent more than the recommended two or less hours per day in front of a screen. Recent research on screen time in child care settings indicate that the estimates reported by parents are probably an underestimate of the total time a child spends in front of a screen each day.⁶

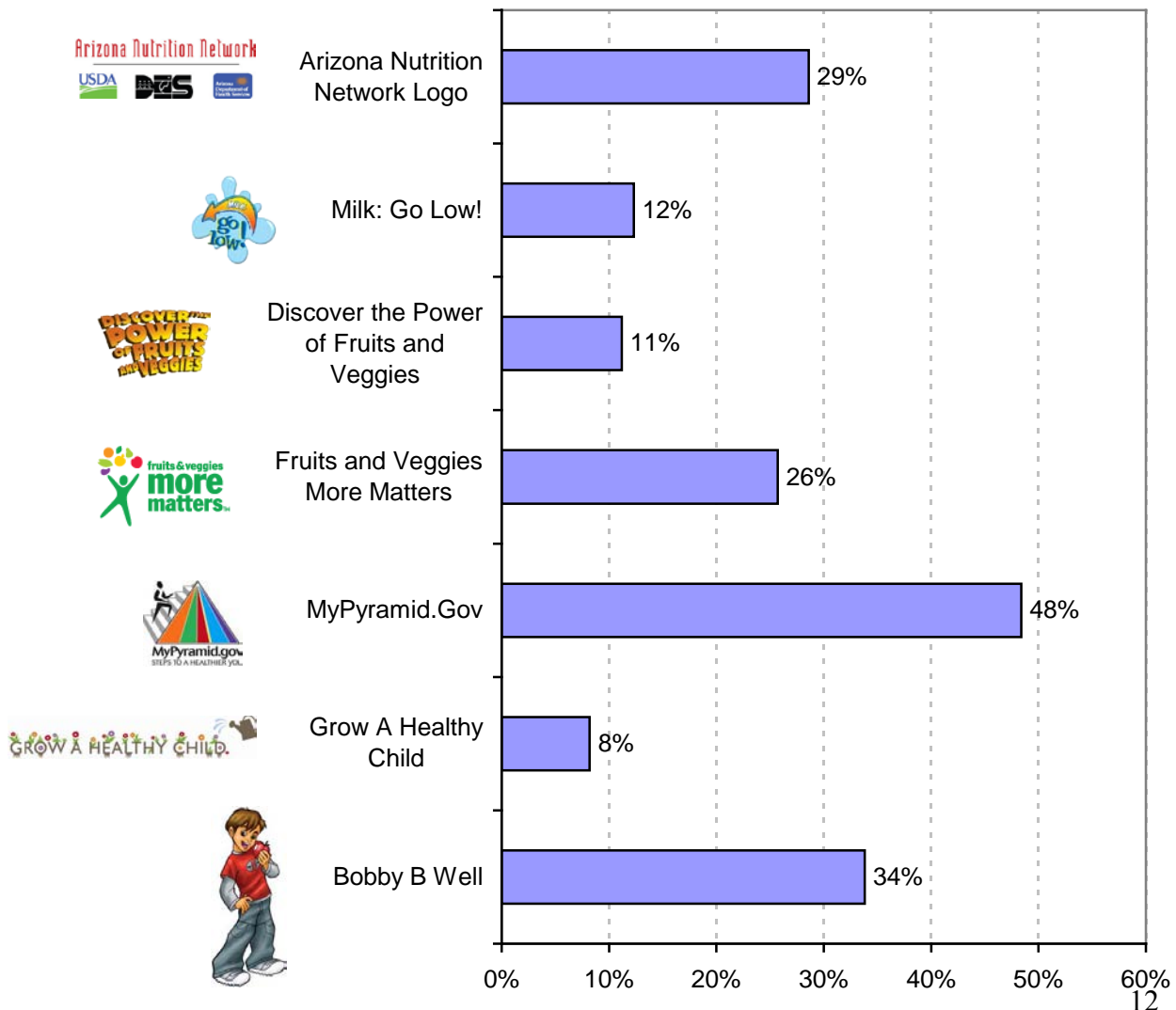
Physical Activity

Respondents were asked to indicate if they participated in any physical activities in the past 30 days outside of their regular job. Over two-thirds (68%, n=658) of respondents reported participating in physical activity in the past 30 days.

Logo Awareness

Respondents were shown seven logos frequently used by the Network, and were asked to circle the logos that they had seen before. Figure 17 shows the percentage of respondents who reported that they had seen each logo. Almost half (48%, n=469) of respondents reported seeing the MyPyramid.gov logo before, and one-third (34%, n=328) of respondents had seen the Bobby B Well logo before.

Figure 17. Percentage of Respondents Who Reported Seeing Logo, AzNN Evaluation, 2009



Conclusion

The purpose of the Network Evaluation Survey is to acquire comprehensive evaluation information for ongoing Network nutrition education efforts statewide. It is intended as a surveillance instrument to collect information on the consumption and behaviors of SNAP participants and eligible participants. Fiscal Year 2009 is the first year of data collection, and provides the baseline data for time trend analysis. This evaluation was designed to determine whether the Network is helping to shape healthy food consumption and promote healthy behaviors among Arizona's SNAP eligible participants.

The results of the evaluation will help direct program efforts and will allow network staff to help guide LIA Partners in order to maximize the effectiveness of community nutrition education efforts. State Health Department administrators and Network staff can utilize the findings to identify areas of the state where new LIA Partners and community nutrition education programs are needed.

The results of the first year of data collection show clear areas where Network staff and LIA Partners can focus nutrition education. These areas include:

- Teaching participants the importance of achieving and maintaining a healthy weight by eating more fruits and vegetables, low fat or fat free milk products and whole grains, and by participating in adequate physical activity. This is supported by the evidence that almost half (48%) of respondents having a BMI indicating that they were overweight or obese.
- Teaching participants how to incorporate more fruits and vegetables into their diets. This is supported by the evidence that 70 percent of respondents are eating less than two cups of vegetables per day, and 60 percent are eating less than 1 ½ cups of fruit each day.
- Teaching participants the importance of including whole grains in their diets. This is supported by the evidence that 15 percent of participants reported that they did not eat whole grain cereal, and just one-quarter of respondents reporting that they ate whole grain cereal at least once per day.
- Teaching participants the importance of including low fat or fat free milk products in their diets. This is supported by the evidence that just one-quarter (24%) of respondents reported that they used 1% low fat or fat free milk.
- Teaching participants how to utilize the Nutrition Facts Label every time they shop for food. This is supported by the evidence that over two-thirds (70%) of respondents reported that they did not use, or sometimes used the Nutrition Facts Label while shopping.
- Teaching participants the importance of family meals. This is supported by the evidence that almost half (46%) of participants having family meals less than five days per week.
- Teaching participants the importance of limiting screen time for children. This is supported by the evidence that almost half (46%) of respondents reported that the oldest child in their household spent more than the recommended two or less hours per day in front of a screen.
- Teaching participants the importance of including some physical activity each day. This is supported by the evidence that one-quarter (25%) of participants reported that they had not participated in any physical activity in the past 30 days.

References

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