

Arizona Nutrition Network



Arizona Nutrition Network Evaluation Pilot

FY 2008

Prepared by
Shelley Kuklish
Epidemiologist

October 2008

Introduction

The Arizona Nutrition Network is a public and private partnership led by the Arizona Department of Health Services' Bureau of USDA Nutrition Programs that are committed to promoting behavior change among the Food Stamp eligible population in Arizona. The purpose of this evaluation is to investigate the components of behavior change in the food stamp population as a result of Arizona Nutrition Network messages and education.

The Food Stamp Program provides supplemental food purchasing assistance for people at or below 130% of the federal poverty level (FPL). In Arizona, 13.9% of the population was living at or below 130% of the federal poverty level in 2000. In December 2007, the Food Stamp Program expended approximately 61 million dollars, with an average per person benefit of \$102.02 per month.

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, 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 determine if a series of nutrition education classes taught by the Partners increase the adoption of healthier behaviors in program participants, and to track the health behaviors of the food stamp eligible population and how they change over time. The purpose of this pilot was to test the selected tool to ensure that it works well to gather the information required and to identify any issues with the survey instrument, instructions and administration protocol prior to full implementation of the evaluation in FY09.

Methods

The evaluation was designed with two parts. The first part is a matched pre and post test that is administered by partners prior to, and at the completion of, a series of community nutrition education classes. The surveys are administered by the local partners, and the completed surveys are submitted to the Network for data entry and analysis. The data will be collected on an on going basis, and submitted as completed. The second part of the evaluation will be a point-in-time evaluation, utilizing the same survey tool as for the matched pre-post tests. An interviewer will conduct interviews at randomly selected State Supplemental Nutrition Program for Women, Infants, and Children (WIC) and Arizona Department of Economic Security (DES) clinics throughout Arizona. The completed surveys will be brought back to the Network for data entry and analysis. The in-person interviews will be conducted during peak times at DES and WIC clinics in order to maximize the number of interviews conducted at any one site.

The first half of on 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 food stamp population and meets the requirements for a valid, reliable, internally consistent, is sensitive to small dietary

changes, is easy to administer and is inexpensive to score. It was found 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.

The pilot test of the evaluation was conducted by five Local Incentive Award (LIA) Partners from September through October of 2008. During the pilot the LIA partners administered the survey to adult participants who attended nutrition education classes prior to, and at the completion of the series of classes. While the pilot test was not randomized, subsequent years will have randomization. Each LIA partner who teaches a series of nutrition education classes will have an equal chance of being selected for future year's evaluation. Additionally Partners were allowed to utilize the surveys as intercept surveys at community events such as school open houses. The same survey tool is used for the pre and post tests and for the point in time interviews.

A total of 100 surveys were collected during the FY 2008 Pilot period. Fifty surveys were point-in time surveys, and the remaining 50 were pre-/post-tests. Eleven matched pre- and post-test surveys were submitted, the remaining 28 pre-/post-tests were either unmatched or are waiting to have the post-test returned. Due to the small number of matched pre- and post-tests received by the deadline of October 1, 2008, the results will not be included in the report for FY 2008, but will be included in the FY 2009 report. Some classes were started before the fiscal year ended, and will be completed after the new fiscal year has begun. While the quantitative analysis for the pre- and post-tests will not be included in this report, the anecdotal information received from our partners with regards to the surveys will be included.

Results

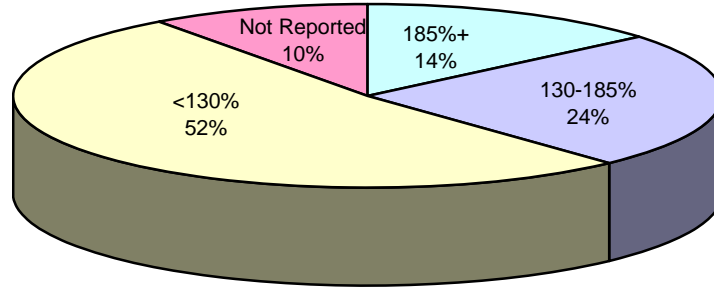
A total of 50 intercept surveys were received from one partner in Coconino County. The surveys were provided to parents and grandparents of students at an open house. The children of these parents and grandparents have and are receiving Supplemental Nutrition Assistance Program Nutrition Education (SNAP-ED) at their school.

Demographics

Of the 50 participants who filled out a survey, 47 reported their age. The average age of the respondent was 31.9 years, with a range from 6 to 65 years of age. Race and ethnicity were collected separately. Over one-third (34%, n=17) of respondents were Hispanic, 64% (n=32) were non-Hispanic, and two percent (n=1) did not report an ethnicity. Forty percent (n=20) of respondents were American Indian, 34 percent (n=17) were White, and two percent (n=1) were Asian. Participants were given the option to check 'Other' under race and write in their response. Nine participants (18%) checked the 'Other' circle and wrote in 'Hispanic'. The remaining six percent (n=3) did not report a race. The majority of respondents (82%, n=41) were female, and 18 percent (n=9) were male.

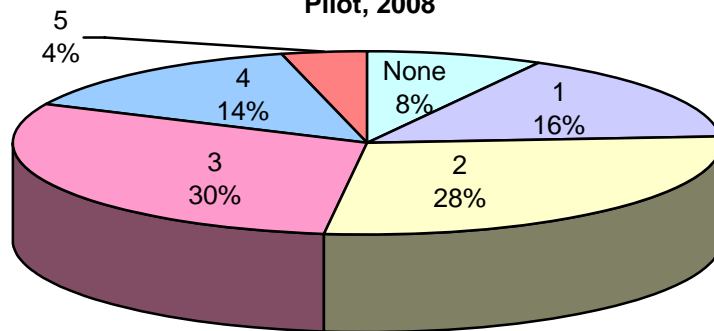
Respondents were asked to report the number of people living in their household and their household income. The federal poverty level for the household was calculated from this information. As Figure 1 shows, over half (52%) of respondents were living at or below 130% of the federal poverty level, and another quarter (24%) were living at 130-185% of the federal poverty level.

Figure 1. Percentage of Respondents by Poverty Level, AzNN Evaluation Pilot, 2008



Respondents were asked to report the number of children age 18 and younger living in their household. The majority (92%, n=46) of respondents reported that they had children age 18 and younger living in their household. Fourteen respondents (28%) 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 2). Forty-three respondents (86%) reported having children age two to 18 years of age living in their home, with an average of 2.3 children age two to 18 (range 1 to 5) living in their home. Figure 2 shows the percentage of respondents by the number of children age 18 and younger living in their home.

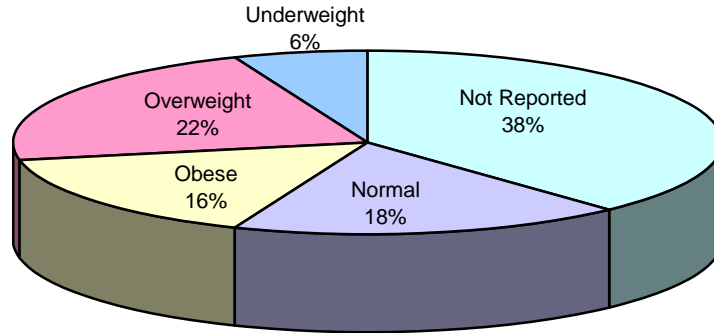
Figure 2. Percentage of Respondents by Number of Children 18 and Younger Living in the Household, AzNN Evaluation Pilot, 2008



Respondents were asked to report their height and weight. One in five respondents (22%, n=11) reported that they did not know their weight, and a similar amount (20%, n=10) reported that they did not know their height. One participant reported that she was pregnant, and did not report a height or weight. The respondent's Body Mass Index (BMI) was then calculated from this information. As Figure 3 shows, 38% (n=19) of

respondents did not report a height and/or weight, and that same amount (38%, n=19) had a calculated BMI¹ indicating that they were overweight or obese.

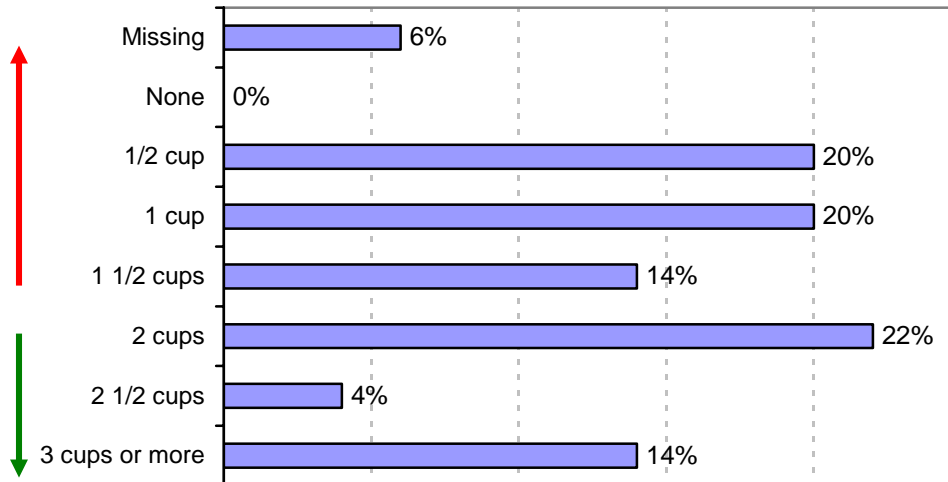
Figure 3. Percentage of Respondents by BMI Category, AzNN Evaluation Pilot, 2008



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, 54 percent 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.

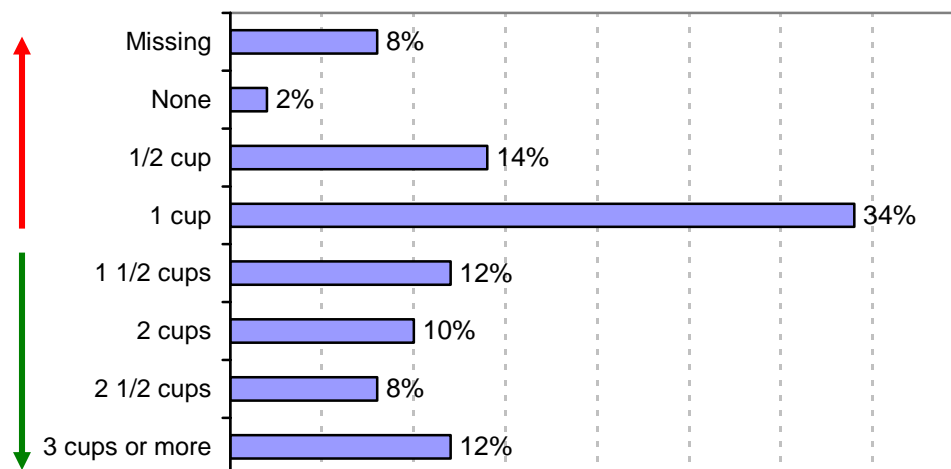
Figure 4. Percentage of Respondents by Cups of Vegetables Consumed Each Day, AzNN Evaluation Pilot FY 2008



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, half (50%, n=25) 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.

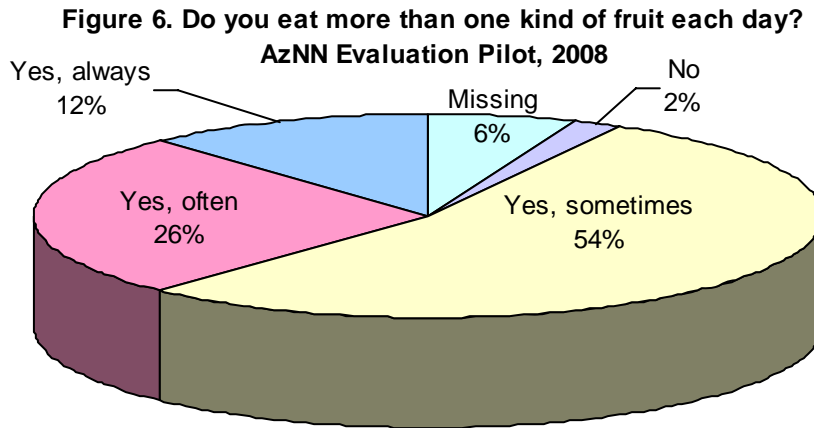
Figure 5. Percentage of Respondents by Cups of Fruit Consumed Each Day, AzNN Evaluation Pilot FY 2008



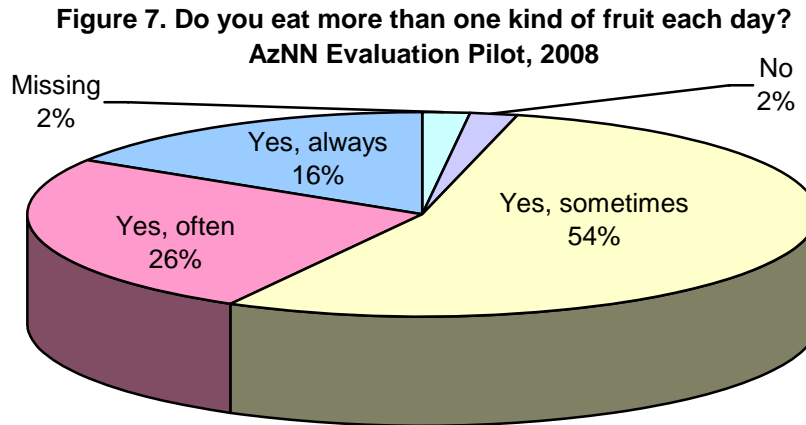
To look more in-depth into the comparison between the recommended amount versus the amount actually consumed, a proxy measure was used. The USDA recommendations take into account a person’s gender, age and physical activity status. Due to space and time limitations, the survey included just one question 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 30-60 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. Using this method, one-quarter (24%, n=12) of respondents met recommendations for fruit consumption, and 16 percent (n=8) met the recommendations for vegetable consumption.

Participants were also asked how often they ate fruits or vegetables as snacks. All participants reported that they ate fruits and vegetables as snacks, however less than one-quarter (22%, n=11) reported eating fruits or vegetables as snacks every day. Forty percent (n=20) of respondents reported eating fruits or vegetables as snacks sometimes, and 38 percent (n=19) reported eating fruits or vegetables as snacks often. Participants were also asked if they have citrus fruit or juice during the past week. Almost all (92%, n=46) 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, just twelve percent (n=6) of respondents reported that they always ate more than one kind of fruit each day.

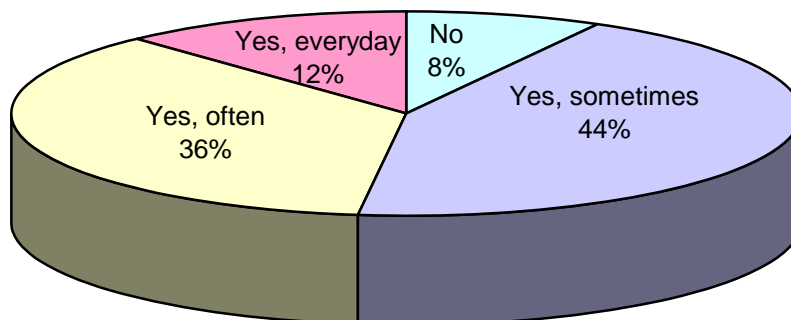


As Figure 7 shows, just 16 percent (n=8) of respondents reported always eating more than one kind of vegetable each day.



Participants were also asked if they eat two or more vegetables at their main meal. As Figure 8 shows, just 12 percent (n=6) of respondents reported that they ate two or more vegetables at their main meal every day.

**Figure 8. Do you eat 2 or more vegetables at your main meal?
AzNN Evaluation Pilot, 2008**



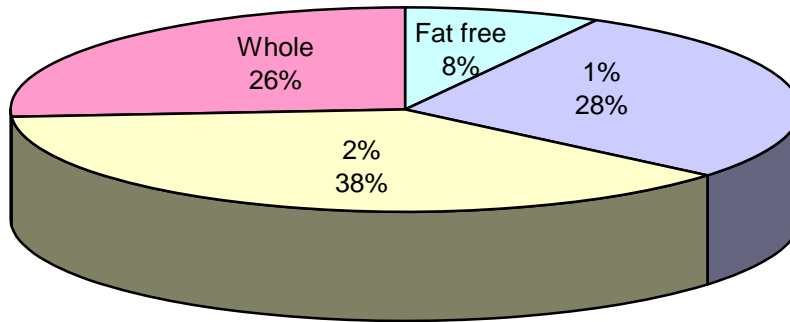
Whole Grain Consumption

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. Participants were allowed to provide either the number of times per day or per week. In one-quarter of cases (26%, n=13), participants filled out the number of times per day as well as per week. Fourteen percent (n=7) 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 6.0 times per week, with a range from 2 to 16 times per week. Just under half (44%, n=22) 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 (98%, n=49) of respondents reported drinking milk or using it on their cereal during the past week. Half (n=25) of respondents reported always drinking milk, just under one-third (30%, n=15) reported often drinking milk, and one-fifth (n=10) reported sometimes drinking milk. Figure 9 shows the percentage of respondents by the type of milk they usually drink or use. As Figure 9 shows, two-thirds (64%, n=32) of respondents reported using whole or 2% reduced-fat milk. The remaining one-third (36%, n=18) of respondents reported using 1% low-fat or fat free milk.

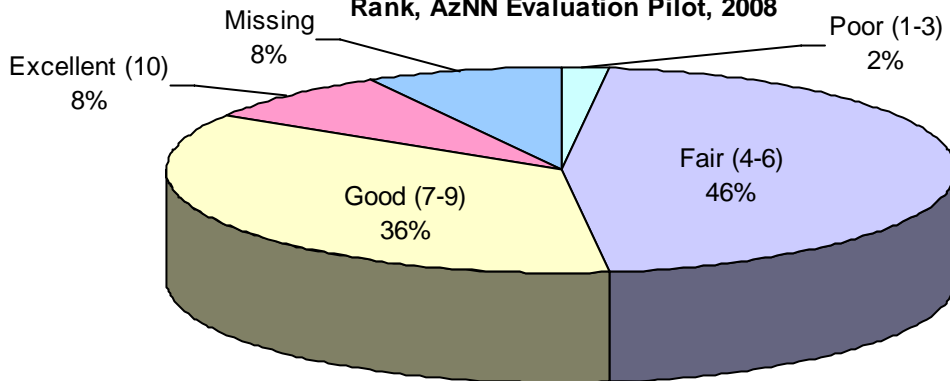
Figure 9. Percentage of Respondents by Type of Milk Usually Used, AzNN Evaluation Pilot, 2008



Diet Quality

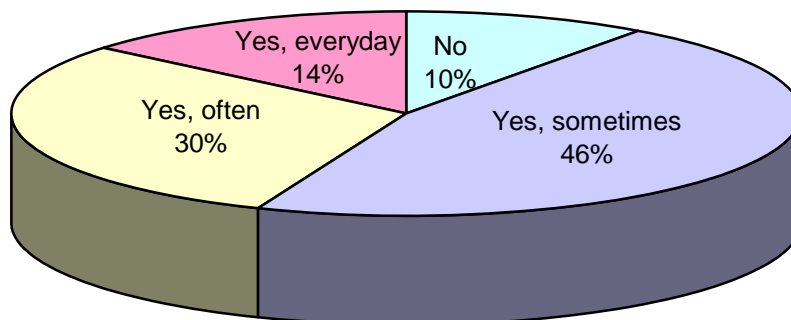
Respondents were asked to rank their eating habits on a scale of one to 10, with 1=poor, 4=fair, 7=good, and 10=excellent. Of the 46 respondents who answered the question, the average rank was 6.2 with a range of 1 to 10. Figure 10 shows the percentage of respondents by how they ranked their eating habits. As the figure shows, almost half (48%, n=24) of respondents ranked their eating habits as poor or fair, while a similar amount (44%, n=22) ranked their eating habits as good or excellent.

Figure 10. Percentage of Respondents by Self-Reported Eating Habits Rank, AzNN Evaluation Pilot, 2008



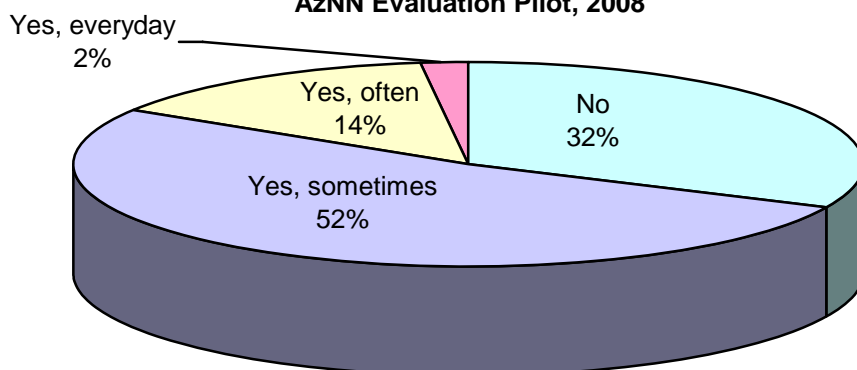
Respondents were asked questions related to dietary quality. Two questions were focused on added sugar in beverages. The majority (90%, n=45) of participants reported that they drank fruit drinks, sports drinks or punch. Almost half (46%, n=23) reported drinking these drinks sometimes, and a similar amount reported drinking these drinks often or every day (44%, n=22). Figure 11 shows the percentage of respondents by frequency of drinking fruit drinks, sports drinks or punch.

**Figure 11. Do you drink fruit drinks, sports drinks or punch?
AzNN Evaluation Pilot, 2008**



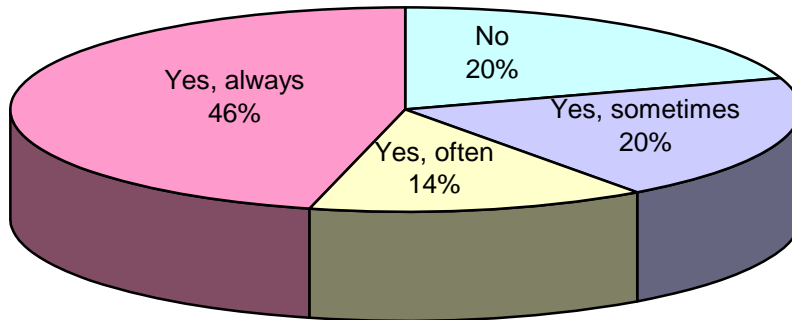
Two-thirds (68%, n=34) of participants reported drinking regular (non-diet) soda. Half (52%, n=26) of respondents reported sometimes drinking regular soda, while one-third (32%, n=16) reported not drinking regular soda. Sixteen percent (n=8) of respondents reported drinking regular soda often or everyday. Figure 12 shows the percentage of respondents by frequency of drinking regular soda.

**Figure 12. Do you drink regular soda?
AzNN Evaluation Pilot, 2008**



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 if they removed skin from chicken before cooking or consuming it. As Figure 13 shows, almost half (46%, n=23) of respondents reported always taking the skin off chicken before cooking or consuming it.

**Figure 13. Do you take the skin off chicken?
AzNN Evaluation Pilot, 2008**

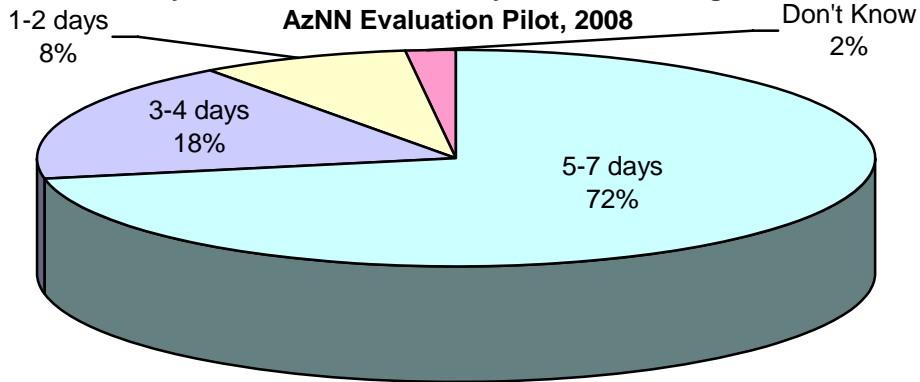


Respondents were also asked if they had eaten fish during the past week. Well over half (60%, n=30) of respondents reported that they had not had fish during the past week, and 40 percent reported that they had eaten fish during the past week.

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. Almost three-quarters of respondents reported eating a meal with the entire family five to seven days per week (n=36). 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.

**Figure 14. During the past week, on how many days did all the family members who live with you eat a meal together?
AzNN Evaluation Pilot, 2008**

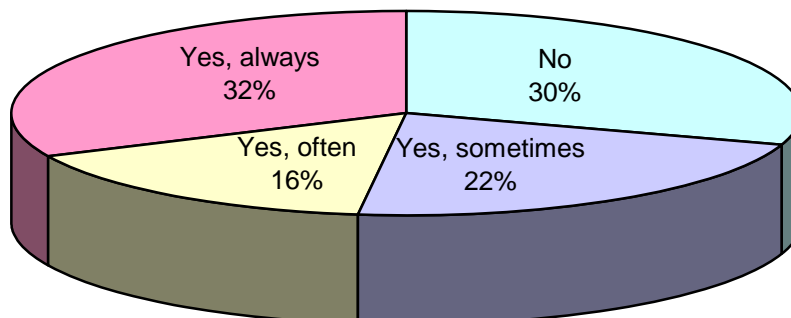


Shopping Behaviors/Food Security

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?’ Over two-thirds (70%, n=35) of respondents reported using the nutrition facts label when shopping. One-third (32%, n=16) of respondents reported always using the nutrition facts label when shopping, and a similar amount (30%, n=15) reported that they did not use the nutrition

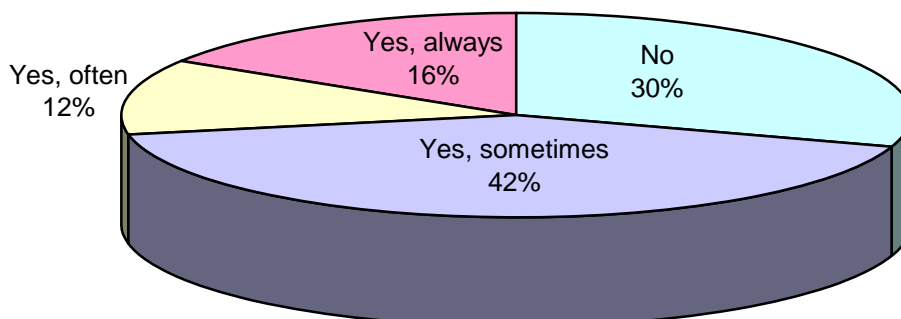
facts label when shopping. Figure 15 shows the percentage of respondents by frequency of using the nutrition facts label when shopping.

**Figure 15. Do you use this label when food shopping?
AzNN Evaluation Pilot, 2008**



Respondents were asked how often they run out of food before the end of the month. Over two-thirds (70%, n=35) of participants reported that they ran out of food before the end of the month. Over one-quarter (28%, n=24) 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.

**Figure 16. Do you run out of food before the end of the month?
AzNN Evaluation Pilot, 2008**



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 videogames, or played computer games on the prior day. Of the 43 respondents who indicated that they had children age two to 18 living in their household, 12% (n=5) did not know how much time their child had spent on the previous day in front of a screen, and one respondent (2%) reported that they did not have children, even though they indicated that they had one child living in the household between the ages of two and 18 years of age. For the 35 respondents (82%) who answered the question, the average number of hours the oldest child in the house spent in front of a screen was 1.75 hours, with a range of 0.5 hours to 4 hours. Fourteen

percent (n=6) 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.

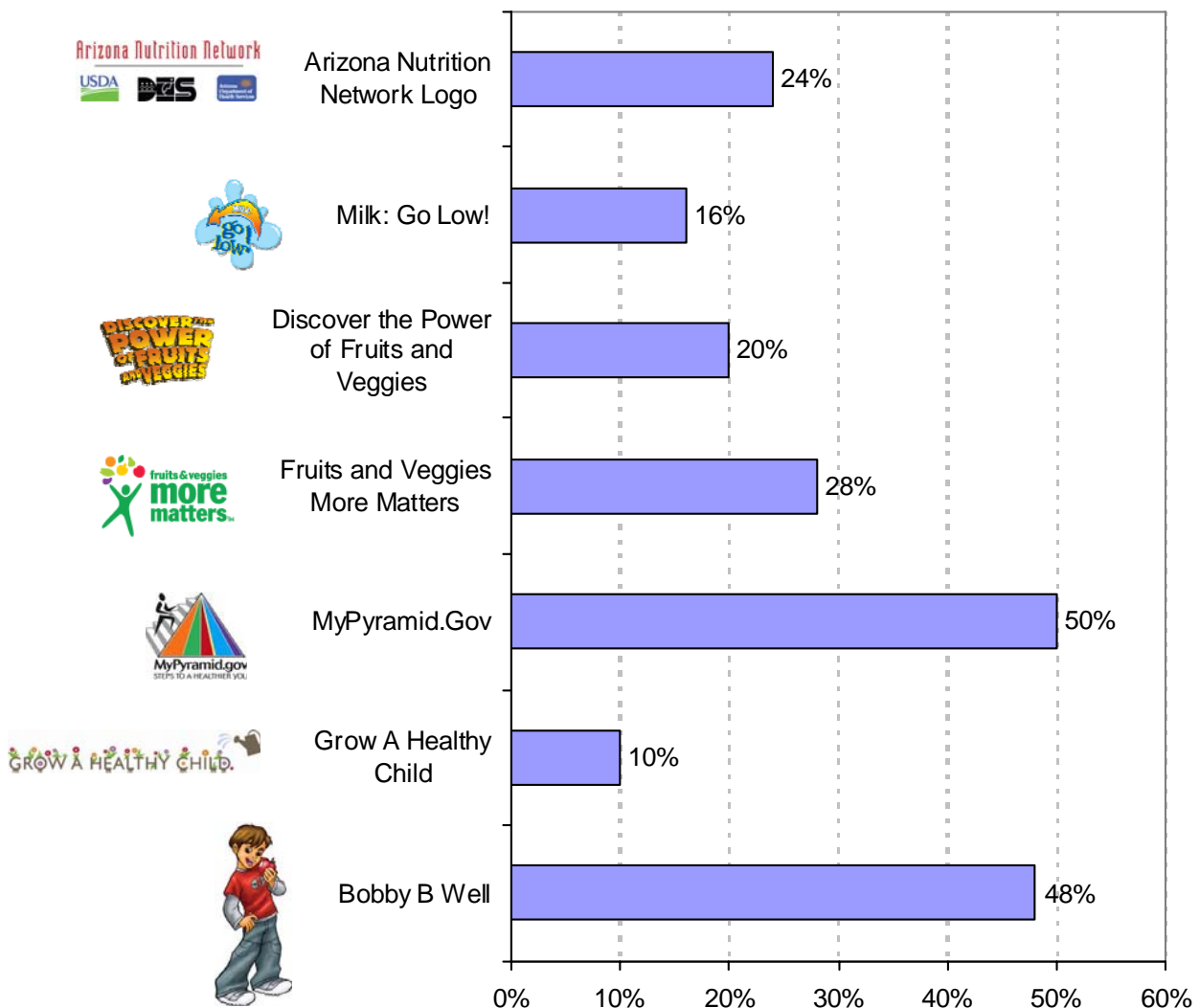
Physical Activity

Respondents were asked to indicate if they participated in any physical activities in the past 30 days outside of their regular job. The majority (82%, n=41) 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. As Figure 17 shows, half (50%) of respondents reported seeing the MyPyramid.gov logo before, and 48% of respondents had seen the Bobby B Well logo before.

Figure 17. Percentage of Respondents Who Reported Seeing Logo, AzNN Evaluation Pilot, 2008



Survey Administration/Instrument Comments

Overall, Partners felt that the survey instrument was ideal for use with the target population of women age 18-44 with children ages 2 to 11 years of age. The average amount of time to complete the survey was 4 minutes. For Partners that tested the survey with the target audience (i.e. young mothers with children), the reception was extremely positive. Participants loved the pictures and found the questions easy to understand.

For special populations, Partners identified problems with using the survey. One Partner, who deals with developmentally disabled participants, found the survey to be extremely time consuming and required one-on-one attention to help the participant fill out the survey completely and accurately. Participants were given the survey prior to the first class of the series, and at the completion of the class series. They reported that the survey took 35 minutes to complete for most of these participants. They reported that many of their participants have either very limited literacy skills, or can not read or write at all. Questions that posed particular problem for them included the question “Did you have citrus fruit or citrus juice during the past week?” as many of their participants did not know what citrus fruit was. Additionally, participants had difficulty with the questions using the timeframe of “in the past week”, because they are unable to understand timeframes. All of the participants do not live independently, nor do they prepare meals or grocery shop on their own. For many questions, they answered based on their caregiver’s shopping and cooking traits. Additionally, for the screen time question, most participants answered the question for themselves as none of them have children of their own. Suggestions to improve this survey for this special population include making the questions shorter, as well as addressing the issues identified above.

Another Partner tested this survey with seniors and found that while the seniors liked the survey because it included lots of pictures, they felt the survey was focused on young mothers with children and some of the questions did not necessarily apply to them.

Some Partners found that it was very difficult to have the same adults at the first class as at the last class, resulting in completed pre- or post-tests, but not both.

For the whole-grain cereal question (question #18), participants often filled in the box for the number of times per day as well as per week. For FY 2009 the administrator instruction booklet will be revised to provide instructions for this question on filling out either per day or per week, but not both.

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 food stamp participants and eligible participants. This evaluation was designed to determine whether the Network is helping to shape healthy food consumption and promote healthy behaviors among Arizona’s Food Stamp eligible women and their children.

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. LIA Partners can utilize the findings from the evaluation to strengthen their 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 comments and suggestions provided by the LIA Partners who participated in the pilot of the surveys will help us in providing training and have identified the need to have surveys targeted for the special populations that are also served by the Network SNAP-ED. Additionally, the pilot test has provided insight into the specific areas that need special attention during survey administration training.

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