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## Pots, Pans, and Kitchen Equipment: Do Low-Income Clients Have Adequate Tools for Cooking?

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## Pots, Pans, and Kitchen Equipment: Do Low-Income Clients Have Adequate Tools for Cooking?

### Abstract

The survey reported here described and summarized the kitchen equipment and tools present in low-income homes and summarized interests for nutrition education and recipes. Food Stamp applicants in three Oklahoma counties (rural, suburban, and urban) completed a pictorial survey of 24 household items related to cooking and answered questions about nutrition education. Over 97% homes surveyed had adequate equipment for cooking. Respondents were willing to spend 30 or more minutes preparing food and wanted help with planning meals and food budgets. Most desired recipes were for meats, vegetables, and casseroles. Forty-six percent of respondents used the Internet.

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## Introduction

Extension professionals provide important nutrition education through multiple programs. The survey reported here provides information about low-income families and the cooking equipment they have available to them. Health educators may use these data to develop more appropriate recipes and better curricula about foods and nutrition.

The United States Department of Agriculture in cooperation with the states funds two programs to provide nutrition education to low-income families. Initiated in 1969, the Expanded Food and Nutrition Education Program (EFNEP) was designed to educate low-income families and youth about nutrition. Food Stamp Nutrition Education (FSNE) was first funded in 1992, when seven states had nutrition education plans approved by Food and Nutrition Service, with total Federal funding of \$661,076. In fiscal 2006, all states had approved FSNE budgets and federal dollars totaled about \$241 million. The states provided matching funds to be spent on FSNE. With the tremendous growth in spending for nutrition education among Food Stamp (FS) applicants and beneficiaries, FNS has increased oversight and accountability for effecting behavior change through nutrition education.

Half of FS participants receive benefits for 9 months or less. The average length of participation is fewer than 2 years. However, elderly and disabled individuals tend to receive food stamp benefits for longer periods of time. While over 60% leave the program within a year, their average length of participation in the program is slightly under 2 1/2 years.

Extension personnel deliver much of the nutrition education for both EFNEP and FSNE. One common model is for a para-professional Nutrition Education Assistant (NEA) to deliver in-home nutrition education. The curriculum includes recipes and may actually demonstrate or lead the individual or group in food preparation. Success of the program is often evaluated based on behavior changes. These might include:

- Is the family spending more of their food dollars on items to cook at home and eating out

less?

- Has consumption of fruits and vegetables increased?
- Have food safety practices improved?

Nutrition educators often talk about the need to develop lessons that are simple and require few resources. The absence of basic kitchen appliances such as ovens and equipment like baking pans, measuring cups, and spoons could certainly limit the types of recipes to be included in the curriculum. In our review, we found no published studies that describe the kitchen inventory in a low-income home.

## **Purpose**

The study reported here was designed with three purposes:

- To investigate the availability of common items needed for food preparation in low income homes.
- To determine which type recipes Food Stamp clients most desire.
- To explore how long respondents were willing to spend in meal preparation and which types of recipes they want.

## **Survey and Methods**

### **Participants**

Participants in the study were low-income clients who had come to one of three Department of Human Services (DHS) county offices to apply for the Food Stamp program. A graduate student went to three DHS county offices to administer the survey. One site was a busy urban office in Oklahoma City, the second was a suburban office in Norman, and the third office was located in rural Kingfisher. Not all participants answered every question.

### **Questionnaire**

We prepared a three-page pictorial and text survey instrument in English and Spanish. It displayed some household appliances and common kitchen tools (Figure 1). The survey also had questions about demographics, including gender and age, shopping frequency, time they were willing to spend in meal preparation, which nutrition education lessons would be helpful, what kinds of recipes participants would most like to have and presence, and use of computers and the Internet. The Institutional Review Board at the University of Oklahoma Health Sciences Center approved the protocol and survey instrument. Respondents placed the completed survey into an envelope. Microsoft Excel was used for data entry and calculating descriptive statistics.

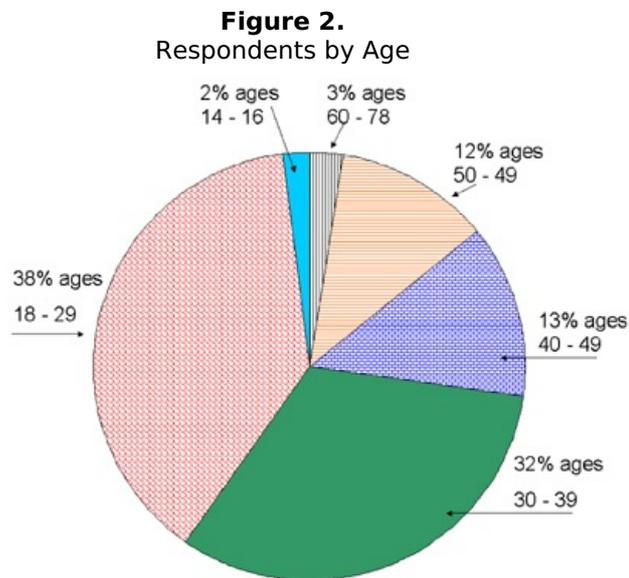
**Figure 1.**  
Kitchen Equipment in the Home\*

Please put a mark by the items you have in your home.		
 saucepan	 skillet	 large pot
 baking pan	 pie pan	 sheet pan
 <b>cooler or ice chest</b>	 cake pan	 cheese grater
 casserole dish	 crockery cooker	 microwave oven
 blender or juicer	 hand mixer	 toaster
 measuring spoons	 liquid measuring cup	 dry measuring cups
 refrigerator	 <b>freezer (separate from refrigerator)</b>	 stove with oven
 hot plate	 <b>DVD player</b>	 <b>VHS video player</b>

\*items in *bold italic print* were not used to calculate the % of kitchen equipment in the household. Participants were not asked if equipment was working.

## Results

Eighty-five percent of respondents were women. One hundred sixty respondents reported their age, which is illustrated in Figure 2.



Nineteen items in the pictorial survey were used to evaluate the adequacy of kitchen inventory. They did not include the cooler, separate freezer, hot plate, and DVD or VHS player. Table 1 describes kitchen inventories by site. Values are described as percentage of appliances and tools in the kitchen. For example, if a household had all the items except the blender, the score was 95%.

**Table 1.**  
Kitchen Equipment Present in Low-Income Homes

County	n	Range %	Mean %	Median (IQR) %
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Kingfisher (rural)	9	74-100	92	95 (89-100)
Cleveland (suburban)	126	21-100	81	87 (68-95)
Oklahoma (urban)	96	42-100	82	87 (68-95)
Total	231	21-100	82	89 (68-95)

Individuals who elected to answer the Spanish version of the survey reported less kitchen equipment. Fifteen of the 16 respondents lived in the suburban county, with one living in the urban setting. Percent of kitchen equipment ranged from 25% to 96%, with a mean of 49%. Median was 46%, and interquartile range (IQR) was 36% to 49%.

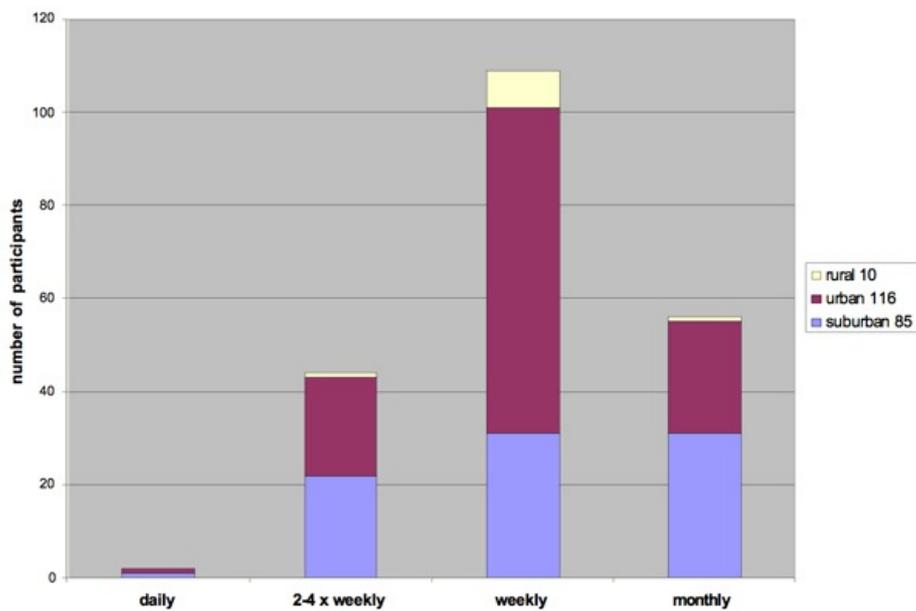
Table 2 describes each appliance or item and the percent of respondents who had the tools in their homes.

**Table 2.**  
Items in the Kitchen and Home

<b>Kitchen Item</b>	<b>% of Clients</b>	<b>Other Item</b>	<b>% of Clients</b>
refrigerator	99.6	VHS or DVD	76.2
saucepan	98.3	VHS	76.2
stove with oven	97.8	DVD	56.3
skillet	96.5	cooler	53.7
microwave oven	91.8	hot plate	20.8
baking pan	89.6	freezer (stand alone)	26.8
large pot	87.4	computer at home	43.3
baking sheet	84.4	use Internet at home	33.3
toaster	83.1	use Internet (at home, school, work, library or relative's home)	
dry measuring cups	79.2		
liquid measure	78.4		
measuring spoons	76.6		46.1
cake pan	76.6		
cheese grater	73.6		
casserole dish	73.2		
hand mixer	71.0		
crock pot	68.8		
pie pan	64.5		
blender	61.4		

Figure 3 and Table 3 illustrate how often respondents shopped and how much time they were willing to spend in meal preparation.

**Figure 3.**  
Shopping Frequency

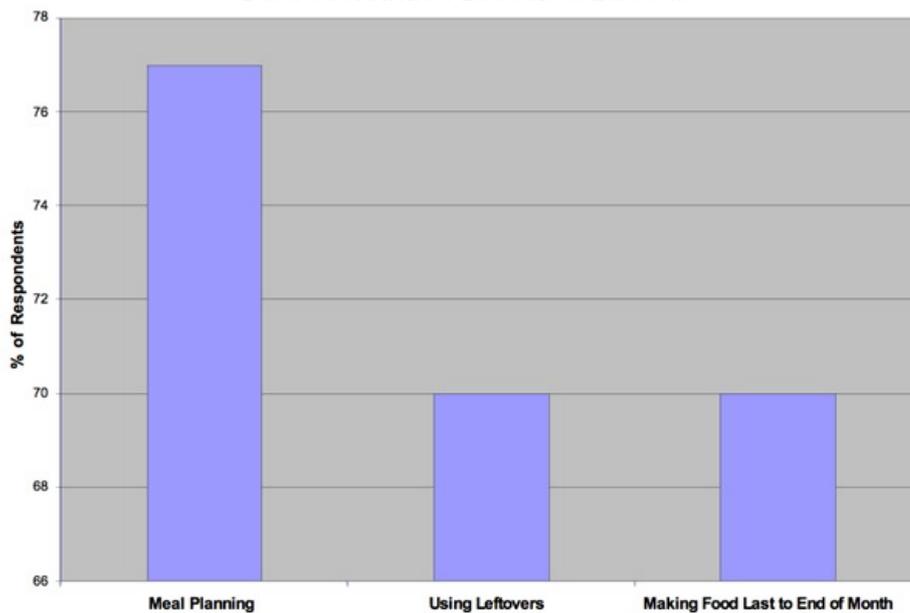


**Table 3.**  
Amount of Time Willing to Spend in Preparation for a Meal  
(% of respondents)

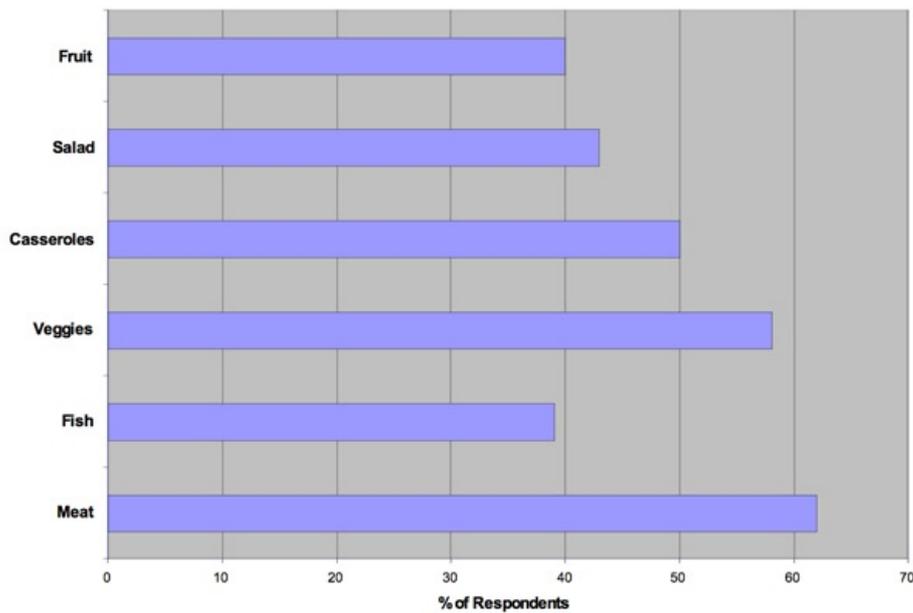
Location	n=	< 30 minutes	30 minutes	> 30 minutes
rural	10	0	30%	70%
urban	120	< 1%	43%	57%
suburban	117	6%	41%	53%

Respondents were asked to check what kind of nutrition education lessons they felt would be beneficial (Figure 4) and which category of recipes they would like to receive (Figure 5). They were allowed to check as few or as many as desired. In addition, respondents rated the importance children being able to help with food preparation as very important (48%), somewhat important (35%), or not important at all (17%).

**Figure 4.**  
Desired Nutrition Education Lessons



**Figure 5.**  
Most Desired Recipes



Fifty-two percent of respondents indicated they had computers in their home, and 48% said they used the Internet. However, while many had a computer at home, they used the Internet at the library, school, or a relative's home.

## Discussion

While this information may be useful to nutrition educators, there are some limitations. The survey instrument was not validated. While this is desirable, the confidentiality issues with food stamp participants would have made it more difficult to approach the individuals who took the survey in the Department of Human Services offices. If others use the survey and have similar results, it could be validated in that way. Additionally, some basic kitchen equipment may be missing. For example, mixing bowls should be added. It is possible that the equipment was present but not working.

Most homes of Food Stamp Program participants or applicants surveyed appear to have satisfactory kitchen equipment and tools for meal preparation. Ninety percent of homes had saucepans, skillets, and microwave ovens. Less than 1% and 3% lacked refrigerators or stoves with ovens, respectively. Inadequate equipment does not appear to be a hindrance to meal preparation. However, one in five households may not have measuring tools.

Although the sample size from the rural county was small and could have led to apparent differences between groups, those respondents appeared to have more of the equipment available. It is possible that these rural FS recipients might have had more access to fresh foods from garden produce and therefore more equipment with which to process or prepare it. For example, 44% of rural respondents had stand-alone freezers as compared to 24% and 28% of those from urban or suburban communities, respectively.

We did not ask about children in the household. However, because the FS program is aimed at families with children, and 70% of individuals surveyed were between ages 18 and 39, it is likely that they had children. Eighty-three percent felt that it was very or somewhat important for recipes to be structured so that children could help with the cooking. This finding agrees with the Reed and Schuster (2002) recommendations for writing recipes for audiences with limited resources. Most respondents indicated they were willing to spend at least 30 minutes in preparation of a meal, and over half were willing to dedicate as much as an hour to meal preparation.

Based on the results of the study reported here, it appears that homemakers in FS eligible families would prefer to receive low-cost recipes that are quick to prepare. These might include soups based on canned stock, bouillon cubes, or milk thickened with instant potato flakes to which canned or frozen vegetables and ground meat, leftover chicken, beef, or grated cheese can be added. Stir-fry and one-dish skillet dinners that can be prepared in 30 minutes or less would also be popular. Survey respondents most desired meat, vegetable, and casserole recipes. Least desired were fish and fruits. This may be because fish and fruit are perceived as expensive and may not be readily available.

Forty-three percent of these low-income respondents said they use a computer, but only a third of all respondents had Internet access at home. However, 43% are using the Internet somewhere. This is an increase from a 2002 survey by Tran when only one in five reported Internet use. Nutrition educators should consider publishing lessons and recipes on Web sites.

## Implications for Extension

Nutrition educators may find information from the survey helpful in developing recipes and planning nutrition education interventions. For example, because over 90% of respondents had microwave ovens in the home, it might be desirable to include both conventional and microwave directions with recipes. Over half of respondents indicated they would spend more than 30 minutes in meal preparation. This is good news for Extension educators who write recipes and curricula that involve significant time for preparation. Respondents acknowledged their desire for lessons in meal planning, using leftovers, and making food last until the end of the month. This validates core lessons included in EFNEP and FSNEP curricula. Over 40% of respondents use the Internet. By making curriculum and recipes available online, former clients may become loyal alumni and continue to increase cooking, nutrition, and meal management skills.

## References

- Poikolainen, A. (2005). *Characteristics of food stamp households: fiscal year 2004*. Prepared by Mathematica Policy Research, Inc. for the Food and Nutrition Service, USDA. Retrieved June 23, 2006 from: <http://www.fns.usda.gov/oane>
- Reed, D. G, & Schuster, E. (2002). Recipe checklist: A tool to aid development of recipes for audiences with limited resources. *Journal of Extension* [On-line], 40(6). Available at: <http://www.joe.org/joe/2002december/tt4.shtml>
- Southwest Museum of Engineering, Communications and Computation. (n.d.). Retrieved October 12, 2006 from: [http://www.smecc.org/microwave\\_oven.htm](http://www.smecc.org/microwave_oven.htm) Accessed 10/12/2006
- Tran, T. (2002). *Comparison of nutrition education opportunities, interests and barriers to participation among food-stamp participants in Oklahoma*. M.S. thesis, University of Oklahoma.
- U.S. Department of Agriculture Economic Research Service. (n.d.). *Federal FSNE funding per participant, 2005*. Retrieved July 13, 2006 from: <http://www.ers.usda.gov/Briefing/FoodStamps/fsne.htm>
- U.S. Department of Agriculture Food and Nutrition Service. (n.d.). *A short history of the Food Stamp Program*. Retrieved July 13, 2006 from: <http://www.fns.usda.gov/fsp/rules/Legislation/history.htm>
- U.S. Department of Agriculture National Agricultural Library. (n.d.). *Approved federal funds for Food Stamp Nutrition Education by fiscal year*. Retrieved July 11, 2006 from: <http://www.nal.usda.gov/foodstamp>
- United States General Accounting Office. (2004). Nutrition Education: USDA provides services through multiple programs, but stronger linkages among efforts are needed. GAO -04-528. Retrieved July 19, 2006 from: <http://www.gao.gov/new.items/d04528.pdf>

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