

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### Focus Group Participants

The number of participants, age, and racial representation at each focus group meeting is shown in Table 1. Three of the focus group interviews were attended by the recommended number of between four and twelve participants.<sup>9</sup> The findings of the remaining three focus group interviews, each attended by less than 4 people, were included in the results of this study because the discussions had similar themes and information as the larger meetings. Among participants of the six focus group interviews, 65% were white, 15% were Hispanic, 12% were African American, and 8% were of another race. All of the focus group participants were women.

Demographical information obtained from the first page of each participant's EFNEP family record revealed that the average age of the participants was 30 years. Twenty-two participants were receiving food stamps and four more were eligible but not receiving food stamps. The average reported income level of the participants was \$377 per month at the time of entry into EFNEP. Fourteen family records did not report income levels. Fourteen participants had more than one child, nine participants had only one child, and two participants had no children. Two participants were residents of a local homeless shelter. Demographic information was not available on one of the focus group participants who was an EFNEP volunteer.

Several of the focus group meetings had individuals present that were not invited, but who did not participate in the discussion and were not included in the results of this study. The first focus group meeting was attended by a married couple, but the husband stated he was only present as an observer and did not contribute to the discussion. Similarly, two of the focus group meetings were attended by teenage daughters of two of the participants, neither of whom joined in the dialogue. The third focus group meeting was attended by only one woman; therefore, the two attending EFNEP program assistants (PA) participated in the discussion and added their perspectives. However, their comments were excluded from the results of this study. Three additional focus group interviews had PAs present during the meeting, but they were seated apart from the participants and did not contribute to the dialogue.

#### Focus Group Interview Results

In the first focus group interview a Spanish interpreter assisted because four of the participants primarily spoke Spanish. Compared to the other focus group meetings, the group dynamics of the interpreted meeting were basically similar. However, the interruptions of the interpreter served to improve the meeting by requiring one person to speak at a time, eliminating the occurrence of side discussions. The transcript and audio-tape of this interview were reviewed by a local high-school Spanish teacher. Corrections consisted of only minor wording changes; therefore, the original transcript was used for the analysis of this study.

Table 1  
*Number and race of focus group interview participants*

Location	Number invited	Number participated	Average Age (years)	White	Hispanic	African American	Other
Arlington	9	6	36	1	4	0	1
Mecklenburg	6	2	37	1	0	1	0
Colonial Beach	7	1	29	1	0	0	0
Lee County	17	11	27	11	0	0	0
Chesapeake	14	1	23	1	0	0	0
Newport News	7	5	31	2	0	2	1
Total	60	26 (43%)	30	17 (65%)	4 (15%)	3 (12%)	2 (8%)

The final analysis worksheets, illustrating the themes and key points from the focus group interviews, are located in Appendix E. Twenty-four themes were identified throughout the six focus group interviews. In the theme of shopping and cooking responsibility, the majority of the focus group participants were mainly responsible; however, many stated that these duties were shared with a spouse and/or other family members or house-mates. One participant's cooking and shopping were done solely by her live-in nurse.

In the theme of meal planning behavior, it was revealed that most participants made food-related decisions while shopping in the grocery store. Typical responses were as follows: "It depends on what we feel like eating when we get into the store, I guess...." and "I open up the fridge and see what there is...."

Minimal meal planning occurred prior to grocery shopping, but consisted of the following: looking in the refrigerator prior to cooking, taking an inventory every few days, looking through the paper for sales, and cooking ahead for several days. There was no mention of making grocery lists or budgeting for food shopping. One participant did indicate an intention to begin making grocery lists at some point in the future. Those who engaged in some form of meal planning gave the following reasons: saving time and/or reducing stress, weather (too hot to cook), stretching money, and reducing waste.

No strong trend was seen in the theme of frequency of food purchasing. Participant responses ranged from more than once per week, to once per week, approximately twice per month, or once per month with occasional "quick trips" to the grocery store. Limited rationale was expressed for food purchasing frequency and included running out of a particular food, forgetting to buy foods, spousal shopping habits, and no freezer to store meat. Additionally, there was no strong trend in the number of grocery stores that an individual used. Many participants stated that their reasons for choosing a particular grocery store were prices, types or brands of food, freshness or quality of food, and location or convenience of the store. Participants statements included:

"I do all of my grocery shopping except my meats at the Grocery Deals store with lower priced canned goods. But, when I do get my meats I go to either Food Lion or Winn Dixie...for my meats. They seem to have the best deals and best prices on meats."

"Food Lion and Halls. Mostly Food Lion because it's cheaper. I get more for my money there....(Halls) is closer to my house, so (I go there) to get something faster instead of coming all the way downtown."

"You can find things cheaper in the Super Walmart and you can get everything together in there. You can pay for it all in one place, clothes or anything."

Other reasons for choosing a particular grocery store were the store size, variety of foods, cleanliness, and popularity. Lack of transportation was a factor that limited choice of grocery stores for some of the participants. The following grocery stores were used by one or more participants (in random order): Food Shopper, Safeway, Shopper's Warehouse, Super Savers,

Grocery Deals, Food Lion, Winn Dixie, Halls, Save a Lot, West Town, Krogers, King Port, Super Walmart, Pay Less, Grables, Farmer's Market, Ground Fresh, Rack 'n Sack, and Vilow's.

Analysis of the food choices theme revealed that the most prevalent considerations were preference and/or taste of participants and their children. Some examples of comments are as follows:

"Usually I just buy what I know we like to eat. Because my kids are young and sometimes they can be picky and I want them to eat."

"...my kids, because they are such picky eaters. I have to buy what they will eat, cause most of the times I buy something I want, they are not going to eat it, so I have to go buy what they want."

The preferences and/or taste of spouses and other family members were also mentioned as a consideration when choosing foods. Additional factors were low prices, low fat content, and health conditions (requiring lower fat, sugar, and/or salt.)

"...I try to spend the least amount of money because I don't have much money to spend anyway and I try to do the best that I can with that money..."

"I try to get my husband to eat the low fat, the low calorie...."

"I had to change because the doctors medically changed it for me, for my daughter. Like I said, she had to be on a low sugar, low salt, and low cholesterol because of her (pause) medical condition."

A few participants expressed concern for lowering sugar consumption of children, brand names (would not buy certain generic brands), nutritional value, freshness of fruit, and expiration dates.

The theme of lack of food resources (money, food stamps, food, etc.) was a problem experienced at least once by many of the focus group participants. Reasons given for such scarcities included the belief that the amount of food stamps received was insufficient, purchase of prepared or expensive foods, and a one-time incidence of food spoilage. Comments included:

"...there is not enough money...with the food stamps and what I spend out of my pocket every month, I am looking at between \$100 and \$150 a month, and that don't include the cereal I get for my daughter, her juices, milk. I get four gallons of milk a month from WIC. Do you know how long four gallons of milk last for three people? Try about a half a month."

"(My solution was to)...buy bulk and go ahead and prepare whatever it is. Try to prepare something instead of getting all the boxed meals, Swansons, Sara Lee...all the boxed meals that are already ready will break you."

"...she bought a lot of spinach and a lot of fresh vegetables and then they spoiled on her so she had to throw them away."(Quote from Spanish-speaking interpreter.)

Others causes mentioned for lack of food resources included inadequate food storage, eating or preparing more than was needed, time of year, unemployment, and buying too much "junk food." Suggestions stated for the prevention of such occurrences were to buy in bulk, leave money at home to prevent spending it, save money, use coupons, look for sales, cut food portions, buy only necessities, make a "schedule," and not take children to the grocery store.

Some form of food behavior change had been attempted in the past by a majority of the participants, either for themselves or for family members. Many had tried to decrease fat consumption, fried foods, or portion size. Other changes attempted were decreasing "junk food," caloric intake, meat consumption, and increasing vegetable intake. Statements by participants included:

"I try to eat less portions, you know, like three times a day, or earlier in the day....Just so I could lose weight. Not as much meat or not as much fat. But it's hard because when I feed my kids, I'm eating too. That's hard for me."

"I'm starting now to try to stop eating so much sausage and mayonnaise and stuff like that and it's real hard cause it looks real good. But what I've been doing is that I've been trying to use just a little less to start with..."

"...I've cut off almost all the fried stuff if I can help it. Some stuff I don't know how to cook it, another way to cook it, but there is other ways you can cook it, but it probably won't taste as good to cook it that way."

Primary reasons for attempting behavior change involved desire for weight loss, although some participants mentioned wanting to be "healthier" and specific medical conditions. A few responses linked a motivation for changing food behavior(s) to stretching food resources or spousal food preferences. Methods that had been used by many of the participants to change certain food behaviors were modifying cooking methods, tricking family members by making changes and not telling them, using different foods or cooking methods for different family members, and not eating after certain times in the evening.

"I am using less salt in my cooking. I am using less sugar in my desserts when I make them and instead of using like butter and grease and oils, I am using cooking spray, olive oil and Canolla oil in cooking, and....I know that I should be taking skins off the meats when I cook 'em, but my husband likes skins so I try to limit the meats I fix with skin."

"Her husband and her oldest son don't like to drink the 2% milk...so she went and bought a gallon of the 2%...and she changed it and put the red (cap) on and they drank it. And they didn't realize any difference."(Quote from Spanish-speaking interpreter.)

"Well, my husband don't like low fat foods or fat-free, so I cook different for him than I do myself, unless it is something fat-free that he can't tell the difference in."

Other methods of changing food behaviors mentioned were instructing children to identify fat in foods, restricting purchase of "junk food," improving the taste of vegetables using "extras," making low-fat substitutions, and making behavior changes slowly. Some participants indicated future goals for making food behavior changes, such as having all family members eat the same foods, changing their eating schedule, increasing vegetable variety, and decreasing fat consumption.

Most of the participants, with the exception of a few, indicated a need or interest in receiving more information on healthy eating. The most prevalent interests were education that focused around nutrition for children and decreasing fat in cooking.

"She would like to learn more about how to prepare things with or for the children. And also how to teach their children to be able to prepare and learn about foods and be able to serve others."(Quote from Spanish-speaking interpreter.)

"I guess information on how to cut out fat, or something like that. I've never really watched this stuff 'cause, like I said, when I grew up I wasn't trained to do it. It's hard now."

" I just want what's best for my kids. I want them to eat healthy and I'm always concerned about their weight and how they're growing and I don't want them to have any diseases or food disorders."

Other common food-related interests were nutrient content of foods (fat, cholesterol, and calories), meal planning and weight control, recipes, and health/medical information and skills, such as CPR. Some interests mentioned by only a few were nutrition education geared toward community needs (ethnic/racial), effects of different foods on the skin, decreasing salt, more convenient cooking, and food sanitation.

Previous sources of participants' nutritional knowledge mentioned most frequently were the mother or another family member, nutrition classes (all participants had been recently enrolled in EFNEP), place of employment, television programs, and self-experimentation or self-learning. Less-often mentioned sources were the health department, health care providers, WIC, friends, school, weight control programs, the public library, and books/magazines. Many participants indicated negative feelings about the nutrition information they had received in the past due to a mistrust of health professionals and/or having received mixed messages or false information. Statements they made included:

"I was looking from the dietitians at the health department and the doctors and the nurses and they kinda like turn a deaf ear to me.... I think the health department

and the health professionals need to take stock and listen to the parents more, and what they want..."

"It's hard because the doctor says one thing and the health department says another. It's hard to find out which one is correct 'cause they tell you one thing then the regular doctors tell you another and it's hard to know which one to go by."

"I don't think you can really trust 'em to educate about what you should be eating and what you shouldn't be eating."

Some participants felt that the nutrition information being taught should be based on sound research and statistics. Additional criticisms of the ways in which information had been provided in the past were as follows: programs were too much of a time commitment, group classes were too large, and there was a sense of having no control or involvement in one's own learning. The absence of child-care during programs and the reluctance to have a stranger in the home for home-based interventions were also mentioned as problems. A few participants expressed the feeling that problems with receiving nutrition information were related to an individual's situation, such as having a lack of motivation, not getting the family's cooperation, or not taking personal responsibility for healthier eating.

"I learn it, but I don't listen to it all the time. I can learn it and understand it, but I don't listen to it a lot....What I know is helpful is paying attention and doing it....You might learn it, but you might not listen to it."

"I really can't think of anything right now that we could do. I think that a lot of it depends on the person. They're gonna have to want to improve their eating habits and want to do the things to eat healthy."

"She says that she cooks with very little salt, but she has the same problem where her kids then add the salt."(Quote from Spanish-speaking interpreter.)

When asked for suggestions on improving sources of nutrition information and preferred ways of receiving information, there were a variety of responses that are presented in Figure 4. The most frequent responses indicated that media advertisements, mailings, hand-outs, and classes with demonstrations were the most preferred ways to receive nutrition education. In addition, it was suggested that programs should encourage more participant control and active involvement. The belief that programs should avoid presenting "mixed messages" and attempt to clarify existing misinformation was also expressed.

When asked for opinions on home video-taped lessons, a majority of participants indicated an interest and felt it would be an effective means for gaining information. However, several were unsure and expressed doubt about the response of family and/or friends. VCR ownership was not discussed at every focus group meeting; therefore, the prevalence of VCRs in the homes of participants was not established.

Figure 4

*Focus group participants' suggestions on nutrition education*

<b>Preferred Educational Sources</b>	<b>Suggested Improvements for Existing Programs</b>	<b>Other Suggestions</b>
mailings	avoid mixed messages	offer free programs
handouts	provide more participant control and involvement	offer incentives for participation
radio	more class day/time options (weekend classes)	cater to non-English speaking populations
newspaper	small group classes	offer cholesterol testing and health screenings
television	offer child-care during programs	
classes with demonstrations	make programs mandatory	



There were no common insights into the self-motivation for interest in learning nutrition information. Some motivations mentioned by a few, however, are shown in Figure 5. The most prevalent of the motivational factors seemed to be the opportunity to learn more about nutrition, interest in weight loss, desire for a healthier diet for the family, and attraction to the food preparation component of existing programs.

There were minimal suggestions from the participants for getting others motivated or interested in nutrition education. Some of these suggestions, however, were to make programs mandatory, offer cholesterol testing and health screenings, provide a bonus or incentive for program participation, and to stress nutrition for children.

Many of the participants defined nutrition as eating properly or eating in a healthy manner. Others gave the definition of eating the "right foods." One participant specifically mentioned vitamins, giving the examples of iron, calcium and vitamin A. When asked, "What does the word nutrition mean to you," some of the responses were as follows:

"...eating healthy, and eating right, and getting the right stuff, and eating what you are supposed to three times a day."

"Whether I get it or not, I want my kids to eat right. That's the way I feel about it."

"For me, I was never concerned about it myself. Growing up I ate more junk food than anything, and that changed when I got pregnant. Now I don't buy as much because of my kids."

Most of the participants felt that nutrition was important to them. However, some of the women indicated that they considered nutrition more important for their children than for themselves. There were few justifications given for why nutrition was important and all of the reasons provided were vague.

At the conclusion of the interview, index cards were given out with the following categories listed: easy to make, good for you, low in cost, and tastes good. Participants were asked to rank each category in order of importance when choosing foods. The results of this ranking are shown in Table 2. There was no clear trend in what was considered the most important consideration. However, 50% of the participants considered "easy to make" the least important factor when compared to the other three factors for choosing foods.

Eight participants completed the follow-up questionnaire to determine diet-related stage of change one week after their focus group interview; therefore, this could not be assessed for the majority of focus group participants. The results of the completed questionnaires are shown in Table 3. These results illustrate that the "action" stage of change was predominant among the eight participants who completed the follow-up questionnaire.

**Figure 5**

*Focus group participants' perceived motivations for previous nutrition interests*

<b>General Interests and Concerns</b>	<b>Specific Needs</b>	<b>Other</b>
Interest in weight loss	To gain food preparation skills	Had extra time
Concern for family's health	To understand food labels	Saw pamphlet
Desire to learn about nutrition	To interact with professionals	To develop rapport with program assistant

**Table 2**

*Group ranking results: important considerations when choosing foods*

<b>Ranking</b>	<b>Easy to Make</b>	<b>Good for You</b>	<b>Low in Cost</b>	<b>Tastes Good</b>
Most Important	6 (21%)	9 (32%)	8 (29%)	5 (18%)
Least Important	14 (50%)	5 (18%)	5 (18%)	4 (14%)

**Table 3**

*Follow-up questionnaire: diet-related stage of change results*

<b>Question<sup>1</sup></b>	<b>PC<sup>2</sup></b>	<b>C<sup>2</sup></b>	<b>PREP<sup>2</sup></b>	<b>ACT<sup>2</sup></b>	<b>MAIN<sup>2</sup></b>
1	2	0	1	5 (63%)	NA
2	0	0	1	2	5 (63%)
3	1	0	0	7 (88%)	NA
4	0	0	1	7 (88%)	NA
5	1	2	1	4 (50%)	NA

<sup>1</sup>Refer to Appendix E

<sup>2</sup>PC = precontemplation, C = contemplation, PREP = preparation, ACT = action, MAIN = maintenance

## Discussion of Focus Group Interview Results

As was found in Hartman's<sup>49</sup> focus group research done with a low-income audience, a low turn-out rate (43%) was problematic in the current study. It was thought that using EFNEP PAs as recruiters would alleviate "no-shows" due to their familiarity with the invitees. However, this did not prove to be true for half of the focus group interviews conducted. For the first focus group interview, the principle investigator made telephone calls to remind the invitees on the evening before the scheduled meeting. It was later suggested by the EFNEP PAs and the assistant facilitator that these reminders should come from the EFNEP PAs for the subsequent meetings, due to their familiarity with the focus group participants. Therefore, the later focus group meeting reminders were not as controlled and may have occurred days before the scheduled meetings due to the busy schedules of the EFNEP PAs. This may have been a factor in the low turn-out at some of the focus group meetings.

Letters sent out one week prior to the focus group meeting may have had an unintended intimidation factor due to the fact that they were sent by the principle investigator who had not had any previous contact with the participants. Another factor in the attendance of one of the focus group meetings may have been the weather. Hurricane warnings were broadcasted in Chesapeake on the day of that meeting.

The possible impact of the EFNEP association with the focus group meetings on the participants in this study must be considered. The fact that the participants were newly recruited to EFNEP should have minimized any biases in the discussion of nutrition education needs. However, it is possible that even a recent introduction to the EFNEP program may have slightly altered the opinions expressed in the focus group meetings. However, the fact that participants were willing to criticize programs in which they had previously participated indicated that the association with EFNEP did not drastically alter the discussions. Nevertheless, it should be noted that the selection of focus group participants from among individuals willing to participate in EFNEP may have skewed the results. EFNEP participants may have had feelings on the topics discussed during the focus groups that were different from those of people less inclined to participate in any nutrition-related program.

Aspects of many of the behavior change models reviewed in Chapter 2 were illustrated in the focus group interview discussions. The Theory of Reasoned Action, stating that one's behavioral intentions determine his/her behavior, was supported by the statements of participants that had made successful behavior changes in the past.<sup>27</sup> However, it was clear that personal intentions were not the only factor affecting the dietary behaviors of those involved in the focus groups. Many participants expressed having had the intention to make certain changes in their diets and were able to describe ways in which to alter their diets, but had not yet succeeded in making a significant change. In addition, the preferences of family members and food cost were considerations for choosing foods that are unrelated to an individual's personal intentions.

The Health Belief Model's concepts of perceived threat, outcome expectations, and incentives were clearly lacking in the thinking of those that expressed a desire to make dietary change, but had been unsuccessful.<sup>28</sup> The perceived threat of an unhealthful diet was only

expressed by those participants who had experienced a diet-related condition personally or through a family member. In addition, the outcome expectations of most of the participants that had previously attempted changes in their diets did not involve health benefits. Instead, expectations centered around weight loss, saving money, and improving the diets of family members; not lending to any personally perceived threat. Furthermore, motivational factors for dietary behavior change were expressed doubtfully and without conviction. The women that participated in the focus groups were unable to provide many suggestions for getting others motivated or interested in nutrition education.

The Social Cognitive Theory, stating that behavior is determined by expectancies and incentives was supported in the same way as the Health Belief Model.<sup>29</sup> The Locus of Control Theory, stating that the perception of a behavior being within or outside of one's control dictates behavior change, was exhibited in the statements of several individuals.<sup>30</sup> As would be expected with a low-income audience, these individuals felt that knowing about nutrition was not enough to lead to behavior change, implying it was out of their control. In addition, the sense of having no control or involvement in past nutrition education experiences was very apparent among some of the participants. As was suggested by Kent,<sup>18</sup> participants expressed that changes must occur due to a personal analysis of a situation rather than an authority's demand. Therefore, it may be important for nutrition educators to allow clients to come to their own conclusions on the dietary changes that they should make. In other words, nutrition educators may be more effective by acting the role of facilitators of change rather than instructors.

An important finding in this study was the high prevalence of a lack of meal planning and food budgeting prior to grocery shopping. However, neither of these were discussed as being problematic or as being an educational need by any of the focus group participants. Although the lack of meal planning and food budgeting are problems that should be addressed by nutrition interventions for food stamp clients, they may not be well received unless participants can view them as being important and possible to change.

For the most part, individuals that had previously experienced a lack of food resources such as money, food stamps, or food were able to prevent the incidence from occurring again. However, one individual indicated a continual problem with food resources and felt it was a result of not being allotted enough food stamp money. There were not many participants that discussed putting aside a certain amount of money for food and a few women indicated that they relied solely on food stamps for their food purchases. This indicated the possibility that some food stamp recipients do not understand that food stamps are meant to be a supplement to their food money rather than the only means of food purchasing.<sup>12,54</sup> Gaining an understanding of this in addition to a realization of the need for food budgeting may help to alleviate food resource problems.

The most prevalent consideration when choosing foods was the preference and/or taste of participants and their family members, particularly children. This finding is supported by the results of other focus group interviews with mothers of young children, citing pressure from their children to buy or avoid certain foods.<sup>47,48</sup> In addition, previous research has shown spousal preferences to play a role in the food choices of women.<sup>47,49</sup> However, personal preferences

were not found in previous research to be as much of a determining factor in food choices as was evident in this study.

Additional factors considered by focus group participants when making food choices were food cost, fat content, and diet-related health conditions. Health conditions were only mentioned by individuals with personal experiences on the topic. Although several previous studies have cited health as a motivational factor for dietary change, there is no clear documentation on whether changes due to this motivation have occurred frequently in individuals without existing conditions.<sup>34,47</sup> Similarly, fat content was rarely discussed in terms of health, but was primarily a consideration in the desire to lose weight, independent of health issues. This could be a useful notion for program developers in that individuals with no experience in diet-related health conditions may be minimally affected by such information and might be more interested in information relating to their immediate concerns for improving body image.

One of the methods that participants had previously used for making dietary changes was to do so without the knowledge of family members (i.e. to trick them into making changes.) Many discussions on past attempts at dietary change centered around the reactions of family members. Some participants used different foods or cooking methods for different family members. Again, this supported previous research showing the importance of family members in food choices and dietary change.<sup>47,48,49</sup>

Although some participants were familiar with the idea of altering cooking methods in order to make specific dietary changes, many others indicated an interest in gaining food preparation skills. Most of the participants, with the exception of a few, indicated a need or interest in receiving more information on healthy eating. This coincides with the American Dietetic Association survey showing that Americans have recognized the significance of good nutrition.<sup>34</sup> However, it is possible that some of the focus group participants in this study were reluctant to express opposing opinions due to the topics of discussion. Nevertheless, most of the participants were able to indicate specific nutrition interests which provided support for their recognition of the importance of nutrition.

There was an abundance of criticism of past sources of participants' nutrition information. There was a predominance of negative feelings among participants about the nutrition information they had received in the past due to a mistrust of health professionals and/or having received mixed messages or false information. This contradicted the results of a study done by Crockett et al.<sup>46</sup> that showed that the opinions of medical professionals were highly valued. Their study was done with elderly participants, however, which may explain the difference in results. Other studies have confirmed that low-income women tend to have a mistrust of health professionals.<sup>47,48</sup>

Media advertisements, mailings, hand-outs, and classes with demonstrations were the most preferred ways of receiving nutrition education among the focus group participants. Although a discussion of video-taped lessons did not occur without the prompting of the facilitator, a majority of participants indicated an interest and felt it would be an effective means for gaining information. All of the suggested ways could be effectively implemented using social

marketing techniques. As stated by Lefebvre and Flora,<sup>38</sup> the communication channels that the target population perceives as being the most influential should be utilized.

The index cards given out at the conclusion of the focus group interviews to rank responses on four factors important when choosing foods did not provide any additional information to the content of the group discussions. It is a possibility that the responses were biased by the preceding focus group discussions. However, the finding that "easy to make" was ranked as the least important factor when compared to the other three factors should be noted. More importantly the fact that "good for you," "low in cost," and "tastes good" were so closely ranked illustrated the diversity of opinions on making food choices. Perhaps a program allowing for adjustments in the educational content according to the preferences of individuals or group majorities would more accurately meet the needs of the target audience.

The results of the follow-up questionnaire showing the action stage of change to be predominant contradicted the findings of Greene and colleagues,<sup>33</sup> that individuals who have not made dietary changes are more likely to be in the preaction stages of change. However, the follow-up questionnaire results can not be generalized to all of the focus group participants due to the poor response rate. The PAs were responsible for having each participant complete a questionnaire; therefore, the poor response rate was not attributed to the focus group participants. However, it is still possible that those individuals that completed the questionnaires were in a different stage of change than the majority of the focus group participants for which the questionnaire was not completed. In addition, the questionnaire results could have been biased by the focus group meetings and by the fact that PAs distributed the questionnaires during EFNEP visits. Although the questionnaire was anonymous, filling it out while in the sole presence of a PA may have affected the responses. Furthermore, the questionnaire was modified from one developed by Greene and colleagues,<sup>33</sup> which was used to define the stage of change for reducing dietary fat, and the modified version was not pilot tested for the purposes of the current study.

A limiting characteristic of this focus group research is that no statistical analysis could be performed and the results are not generalizable to the entire population; however, this was not a research goal. A qualitative summary of the feelings and perceptions of subgroups from the population was attained.

### Food Data Results

Ninety-two 24-hour food recalls from EFNEP family records of food stamp clients, newly recruited to EFNEP and meeting the predetermined criteria, were submitted by EFNEP program assistants. The subjects represented a broad geographical range of Virginia as follows: 39 from farms and rural areas of less than 10,000 people; 16 from towns with populations between 10,000 to 50,000 people; 17 from suburbs with populations greater than 50,000; and 20 from cities with populations greater than 50,000. The food recalls were analyzed manually for consumption of 16 categories of foods based on frequency and not on actual servings. No statistical analysis was performed, similar to the methods of Patterson and Block, because the purpose of the food data analysis was to report food consumption trends. The low number of

subjects in each population sub-group was not sufficient for statistical analysis. Table 4 contains the mean reported consumption frequencies of food categories for each geographical group.

Subjects living in suburbs with populations less than 50,000 reported a lower consumption of all of the food categories except for high sugar cereals and dairy foods. The other three population groups had a similar consumption of all food categories except for dairy foods. No other distinct trends between population groups were noted.

Some patterns in food category consumption were apparent among all of the population groups. Though serving sizes were not assessed, the mean frequency of eating all vegetables and fruits combined was lower than the recommended five per day for all groups of subjects. Potatoes and tomatoes were the most commonly consumed vegetables. Fruits were consumed less than half as often as vegetables. No single fruit was identified as more commonly consumed, but those mentioned most often were orange juice, apple juice, bananas, apples, and watermelon. Cereals in general were underconsumed; however, high fiber cereals (bran cereals, shredded wheat, etc.) were consumed more often than high sugar cereals. White bread used for sandwiches and pasta (spaghetti, ravioli, lasagna, etc.) were the most frequently reported breads and cereals. Ground beef was the most common red meat and was frequently eaten in the form of hamburgers. Chicken was more popular than fish. No other trends were seen in the comparison of red meat, poultry, fish, or bacon and lunch meat consumption. Milk was the predominant dairy source reported. There did not seem to be any difference in the amount of skim, 2%, or whole milk consumed, however, the type of milk was not reported on many recalls. Low-fat dairy options were under-represented in the dairy food category. High-fat desserts (donuts, pies, candy bars, potato chips, etc.) were consumed more than twice as often as high-sugar desserts (jello, sugar candy, low-fat baked goods, etc.) Fats and oils were relied on heavily by all subjects. Soft drinks were the most commonly reported beverage. Coffee and tea were also frequently consumed.

Table 5 shows the most common sources of meals and snacks. Food was purchased in a grocery store and prepared at home by 75% of the subjects. Fast-food meals were purchased at least one time per day by 12% of the subjects. Senior or recreation center meals were consumed at least once per day by 5.4% of the subjects. Sit-down restaurant and convenience store purchases were made by 4.3% and 2.2% of the subjects, respectively. A take-out pizza purchase was indicated on only one of the 24-hour food-recalls.

Type of food preparation was not consistently reported on the EFNEP 24-hour food recalls. However, among those that did include this information, meats and vegetables were fried most frequently. In addition, meats were often baked. Methods that were reported only a few times were roasting, broiling, and braising. Vegetables were sometimes steamed or eaten raw. The only notable difference between population groups was that the subjects from rural areas sometimes consumed the same meal more than once in a day. However, no trend was seen in different food preparation methods between the population groups.

### Discussion of Food Data Results

The 24-hour food recalls represented low-income individuals from four groups in Virginia, based on population density. There were differences seen in food consumption of the groups.

**Table 4**

*Mean frequencies for daily consumption of food categories*

Food Category	Geographical Area			
	< 10,000 (rural) n = 39	10,000 - 50,000 (towns) n = 16	> 50,000 (suburbs) n = 17	> 50,000 (cities) n = 20
Vegetables				
All	2.44	2.50	1.53	2.70
Garden	1.05	1.38	0.71	1.55
Cruciferous	0.26	0.13	0.06	0.45
Deep Yellow	0.08	0.56	0.00	0.15
Fibrous	0.28	0.50	0.12	0.40
All Fruits	1.08	0.75	0.56	1.00
Fruits/Vegetables				
High in Vitamin A	0.49	0.75	0.24	0.85
High in Vitamin C	0.85	0.38	0.18	0.45
High Fiber Cereals	0.21	0.25	0.06	0.15
High Sugar Cereals	0.13	0.06	0.06	0.05
Other Cereals/Breads	2.26	2.06	1.88	2.50
Meats				
Red Meat	0.82	0.75	0.06	0.75
Poultry and Fish	0.51	0.75	0.41	0.75
Bacon/Lunch				
Meats	0.56	0.31	0.12	0.70
Dairy	1.26	2.50	1.53	0.90
Limited Extras	3.26	3.00	2.18	2.85

**Table 5**

*Most common food preparation/purchase locations*

Location	Number of Responses	Percentage
Home-prepared meals	69	75.0
Fast-food purchases	11	12.0
Senior/Recreation Center meals	5	5.4
Sit-down restaurant purchases	4	4.3
Convenience store purchases	2	2.2
Take-out pizza purchases	1	1.1



However, the fact that numerous EFNEP PAs collected the recalls may explain the differences seen in consumption. A difference in technique for collecting 24-hour food recalls could explain the trend of subjects living in suburbs with populations less than 50,000 having lower consumption of nearly all food categories. However, all of the EFNEP PAs had previously received the same food recall training.

Most of the food consumption patterns noted were in agreement with findings of previous research. The low frequency of fruit and vegetable consumption supported the findings of Cronin et al.,<sup>51</sup> Patterson and Block,<sup>52</sup> and Morris et al.<sup>53</sup> The greater consumption of vegetables than fruits was also in agreement with past research.<sup>52</sup> The high consumption of soft drinks, coffee, and tea and the low consumption of fruits illustrated by results of this study emphasize the need to encourage greater consumption of fruit juices in educational programs.

The low consumption of high fiber cereals was documented in past research<sup>51,52</sup>; however, a new finding of this study was the low consumption of high sugar cereals. This indicates that breakfast cereals in general may be underconsumed by low-income adult women. The consumption of other cereals and breads was similar to other populations previously studied.<sup>51</sup>

The findings of this study supported previous research showing that beef was the most popular red meat.<sup>51</sup> Additional findings of this study were that chicken was more popular than fish and that low-fat dairy products were being selected only occasionally. Although fat intake was a concern among the focus group participants, subjects reporting food data showed a high consumption of fatty foods, particularly high fat desserts.

No comparison could be made between methods of food preparation and purchasing locations of this study group versus other populations due to a lack of information available in the literature. The high-frequency of home-prepared meals was encouraging; however, subjects may have been reluctant to report eating at fast-food restaurants to EFNEP PAs. No conclusion could be made in reference to type of food preparation due to missing information on the recalls.

The ideas expressed during the focus group interviews coincided with the general findings of the 24-hour food recalls. Although separate groups were involved in the focus group interviews and the food data collection, the minimal amount of meal planning identified by the focus groups could explain the low intakes of certain foods reported on the 24-hour recalls, such as fruits and vegetables. In addition, the focus group interviews identified trends in certain dietary behavior change attempts that were not corroborated by the food data collection. Of the focus group participants who reported having previously attempted a dietary behavior change, few could clearly describe specific plans they had made to do so. This could be a partial explanation for the unbalanced diets identified by the food data results. The focus group participants indicated strong interests in decreasing fat intake and in good nutrition for their children. The food data information verified the need for decreasing fat in the diets of food stamp clients; however, no conclusion could be drawn on how children were being fed as the recalls were collected on the homemakers themselves.