

Meal-Planning Practices with Individuals in Health Disparity Zip Codes

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ABSTRACT

Objective: This study identified perceptions of family meal benefits and family meal preplanning patterns among African Americans (AAs) living in health disparity zip codes in the Deep South.

Design: Surveys that included demographic information, perceptions about family meal benefits, and preplanning behaviors

Results: Study participants with limited meal preplanning practices were less likely to participate in family meals.

Conclusions: This study provides a greater understanding of some of the specific practices related to the time and the number of family meals planned by individuals in this population that may contribute to the low number of family meals they experience.

Keywords: African Americans, family meal preplanning patterns, health disparity zip codes, perception of family meal benefits

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Obesity is a risk factor for chronic diseases and can lead to a decreased lifespan with a diminished quality of life.¹ Diet-related diseases, such as obesity, hypertension, diabetes, and elevated cholesterol, are more common in African Americans (AAs), particularly those who reside in low-wealth areas.^{2,3} Healthy dietary changes can modify the risk of developing chronic diseases.

The promotion of family meals is identified as a protective factor for obesity because of the positive associations with healthful food intake.⁴ One reason for the impact of family meals on Americans' consumption of nutritious food may be that approximately 68% of the total calories consumed are from food prepared at home.⁵

The purpose of this study is to identify perceptions of family meal benefits and specific preplanning meal practices of AAs living in health disparity zip codes in the Deep South. To our knowledge, this is the first study to examine the perceptions of family meal benefits and specific practices based on the time and the number of family meals planned by AAs residing in these areas. The ultimate goal of this study is to understand perceptions regarding family meal benefits

and preplanning behaviors so that providers can find ways to assist and offer resources.

The health disparity zip codes in this research project were identified to have more than 30% of the individuals living below the poverty line and 92% were AAs. These zip codes had higher rates of mortality from cardiovascular disease and cancer.⁶

BACKGROUND

Frequent family meals are generally defined as 5 or more family meals in 1 week.^{7,8} Studies have shown that teens who participate in 2 or fewer meals per week were more likely to have lower grades in school, smoke, drink, and use drugs.⁷ Frequent family meals have a positive impact on nutrition, health, family communication, and the emotional development of children and teens.⁴ In contrast, infrequent family meals promote unhealthy eating behaviors involving processed foods and fast foods.

Many factors may contribute to the infrequency of family meals, including the high cost of healthy meals,⁹ lack of access to grocery stores that offer healthy food,¹⁰ and reliance on the convenience of fast food restaurants.^{9,10} Studies focused on the

frequency of family meals suggest that AA families share fewer family meals compared to other racial/ethnic groups.¹¹⁻¹³

AAs have higher obesity rates than other racial and ethnic minority populations.² This is especially true with AA women, who have a higher obesity rate than any other group in the United States.¹ Approximately 4 of 5 AA women are overweight or obese. This trend is also seen with AA girls. Between 2007 and 2010, AA girls were 80% more likely to be overweight than their non-Hispanic white counterparts.¹⁴

PREPLANNING MEALS

The use of grocery lists is frequently associated with meal planning and planned purchases. A study identified that women are the predominant users of lists.¹⁵ Households with income below the 75% poverty level are much less likely to shop with a grocery list.¹⁶ Individuals who use shopping lists are more likely to eat 2 or more servings of vegetables per day.¹⁷ Women who plan meals or prepare dishes ahead of time are twice as likely to eat more servings of vegetables.^{16,17} Individuals who use food-planning strategies eat healthier diets compared to those who purchase and prepare foods on impulse or with little to no planning.^{16,17} These studies observed isolated characteristics of preplanning and nutritional benefits of preplanning.

The theory of planned behavior (TPB) was selected to guide this project. According to the TPB related to consumer behavior, an action is more likely to be carried out if people believe that they have control over their behavior, have an optimistic attitude toward it, and have social pressure to perform the task.¹⁸ The task in this study is to identify specific behaviors related to preplanning healthy meals.

An extensive literature search found many research articles that characterize contributing factors to the low number of family meals per week but failed to identify studies regarding the perception of family meal benefits among AAs and their specific practices related to the time and the number of family meals planned with individuals in this population.

The specific aims of this study are:

- To assess the frequency of family meals and meal-planning practices of AAs residing in health disparity zip codes

- To evaluate participants' perceptions of the benefits of family meals

METHODS

Study Design

Institutional review board approval was obtained before conducting this research.

This study is a descriptive survey of a convenience sample that involved surveying residents of health disparity zip codes.⁶ Participants were recruited from 3 churches, 2 faith-based ministries, and 2 community service programs that work with individuals in the identified areas. Only adults were allowed to participate in the survey, with no exclusion criteria by gender, race, or ethnicity. All individuals who responded to the flyer were permitted to take the survey. Participation was voluntary and responses were anonymous. When participants completed the survey, they were entered into a drawing for a door prize. Door prizes consisted of healthy eating cookbooks, small kitchen appliances/gadgets, and conversation starter kits for communication during family meals.

Surveys

In developing the surveys, researchers consulted with national and local experts who work with the AA population in health disparity zip codes. To ensure that the questions in the surveys were stated accurately and to determine that literacy and cultural relevancy were appropriate, the survey was piloted with 18 community health advocates who live in the same area as the participants. Participants were reassured that the survey was voluntary and their identities would remain anonymous.

The participants were given 2 surveys: a survey that included questions related to demographic information and meal planning and another survey that identified their perceptions regarding the benefits of family meals. Each survey question regarding planning of meals was given six possible options as follows:

- Never (less than 5% of the time)
- A little bit (5-19% of the time)
- Some of the time (20-39% of the time)
- Half the time (40-59% of the time)
- Most of the time (60-79% of the time)
- Almost all of the time (80-100% of the time)

Each question regarding perceptions was given five possible options as follows:

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Sample Demographics

The goal was to identify AA perceptions and practices. All individuals who responded to the advertisement were given the opportunity to complete the survey. However, only AA participants' responses were analyzed for this study. A total of 211 AAs participated in this study. Demographics of AA participants are reported in Table 1.

Statistical Data Analysis

A database was created using Excel for all the surveys completed. Collected data were analyzed using statistical software JMP (a product of SAS Institute Inc, Cary, NC). All responses were summarized using percentages. Because the literature indicates that 2 or fewer family meals per week is considered too few for families, the family meal pattern was converted to a categorical variable (0-2 family meals per week vs 3+ family meals per week) for analysis.^{7,8}

The association of responses with demographic characteristics and family meal patterns was analyzed using chi-square test of independence to evaluate the differences between family patterns related to demographic characteristics. A 0.05 level was used to determine the significance of results. The *P* values are reported to give readers the freedom of choosing level of significance and drawing their own conclusions. For the analysis purpose, a 6-point answer scale of planning questionnaire was converted to a 3-point scale by combining the adjacent options as less than 20% of the time, 20%-59% of the time, and 60%-100% of the time. Similarly, a 5-point answer scale of perception questionnaire was converted to a 3-point scale as strongly disagree or disagree, neither agree nor disagree, and agree or strongly agree.

RESULTS

The findings indicate that AA participants partake in a low number of family meals per week and are

Table 1. Demographics of AA Participants

| Demographic Characteristic | (n = 211) |
|---|------------------|
| Age (in years) | |
| 21-29 | 24 (11.4%) |
| 20-39 | 32 (15.2%) |
| 40-49 | 36 (17.1%) |
| 50-59 | 76 (36.0%) |
| 60-69 | 22 (10.4%) |
| 70-79 | 21 (10.0%) |
| Gender (in %) | |
| Female | 173 (82.8%) |
| Male | 36 (17.2%) |
| Marital Status | |
| (n = 208) | |
| Divorced | 29 (13.9%) |
| Married | 106 (51.0%) |
| Single | 63 (30.3%) |
| Widowed | 10 (4.8%) |
| Children live at home? | |
| (n = 208) | |
| No | 92 (44.2%) |
| Yes | 116 (55.8%) |
| Number of meals eaten together in the past 7 days | |
| (n = 198) | |
| None | 25 (12.6%) |
| 1 or 2 | 58 (29.3%) |
| 3 or 4 | 49 (24.7%) |
| 5 or 6 | 28 (14.4%) |
| 7 | 21 (10.6%) |
| 8 or more | 17 (8.6%) |
| Children at home by participant age group (Yes % families) | |
| (n = 116) | |
| 21-29 | 12 (50.0% of 24) |
| 20-39 | 25 (78.1% of 32) |
| 40-49 | 25 (71.4% of 35) |
| 50-59 | 33 (44% of 75) |
| 60-69 | 10 (55% of 21) |
| 70-79 | 11 (55% of 20) |

inconsistent about planning family meals. Forty-two percent of the AA participants reported that they ate 2 or fewer meals with their families within the past 7 days.

No significant association was observed between the frequency of family meals and age, marital status, or children at home of the participants. As expected, the presence of children at home was significantly associated with the age of participants ($P = 0.01$). Age groups 30–39 and 40–49 reported the highest percent of families with children at home. Interestingly, the age group 70–79 reported the elevated percentage of children at home, probably from presence of grandchildren.

Planning Meals in Practice

Results of cross-classification of practice of planning meals and the frequency of family meals are reported in Table 2. A significant association was observed between responses by the number of family meals in the previous 7 days (0–2 vs 3+ meals per week) and the preplanning practices of participants (Table 2). Those with 3+ family meals per week were more likely to shop with a list than those with 0–2 meals in the previous week ($P = 0.0008$). Those who had 2 or fewer family meals per week preplanned meals significantly less often compared to those who had 3+ family meals per week: the morning of the meal ($P = 0.0126$), 2–3 days in advance ($P = 0.0270$), and 1 week before the meal ($P = 0.0016$).

Perceptions and Practice by Age

A significant association was observed between the participants' age and their perceptions about

preplanning meals ($P = 0.0384$). A higher percentage of older participants compared to younger participants agreed with the importance of preplanning meals. Only 5% of those in the 60–79 age group compared to 35.54% of younger participants felt a busy schedule prevents them from preparing frequent family meals most of the time ($P = 0.0019$), and only 2.5% of the 60–79 age group compared to 13.17% of the younger participants felt that lack of cooking skills prevented them from having family meals ($P = 0.0391$).

Perceptions and Practice by Number of Children at Home

A significantly higher percentage (50.89% of 112) of those who have children living at home compared to others (38.37% of 86) disagreed or strongly disagreed that it is difficult to find time for a family meal ($P = 0.0397$). On the other hand, a significantly higher percentage of those with live-in children preplan meals (29.17% vs 16.28%, $P = 0.0097$).

Perceptions and Practice by Participation in Number of Family Meals

A significantly higher percentage of those who had 0–2 meals with the family in the previous week (79.5%) compared to the others (61%) believe that lack of family meals is more often because of different schedules ($P = 0.0029$). In addition, the same group

Table 2. Association of Practice of Meal Planning With Family Meal Pattern (0-2 Meals Per Week and 3+ Meals Per Week)

| Question | Meals/Wk (n) | < 20% of the time | 20%-59% of the time | > 60% of the time | <i>P</i> |
|---|--------------|-------------------|---------------------|-------------------|----------|
| How often do you feel that a busy schedule prevents you from preparing frequent family meals? | 0-2 (83) | 24.1 | 38.5 | 37.3 | 0.0127 |
| | 3+ (114) | 42.11 | 35.9 | 21.9 | |
| How often do you preplan your meals (ie, you know by 9 a.m. what you plan to eat for dinner)? | 0-2 (83) | 43.3 | 42.2 | 14.5 | 0.0126 |
| | 3+ (114) | 29.8 | 38.6 | 31.6 | |
| How often do you plan a menu for 2-3 days at a time? | 0-2 (83) | 68.7 | 22.9 | 8.4 | 0.0270 |
| | 3+ (115) | 47.8 | 30.4 | 21.7 | |
| How often do you plan a menu for a week at a time? | 0-2 (82) | 84.2 | 9.7 | 6.1 | 0.0016 |
| | 3+ (113) | 61.1 | 23.0 | 15.9 | |
| Do you shop for groceries with a list of ingredients needed for specific meals? | 0-2 (83) | 46.9 | 26.5 | 26.5 | 0.0008 |
| | 3+ (115) | 21.7 | 43.5 | 34.8 | |
| Do you feel that a lack of cooking skills contributes to not having frequent family meals? | 0-2 (83) | 69.8 | 16.9 | 13.3 | 0.6932 |
| | 3+ (115) | 71.3 | 19.1 | 9.6 | |

The numbers reported are percentage of responses from each group of family meal pattern and the *P* value reported is for the chi-square test of independence.

had 47.4% participants (0–2 meals per week) compared to 29.7% among the others (3+ meals per week) who agreed or strongly agreed to having difficulty finding time for a family meal ($P = 0.0065$).

LIMITATIONS

This study has some limitations. A convenience sample of AAs who live in the Deep South in health disparity zip codes were recruited to participate in this research. The findings from this study may not be generalized to AAs in other locations. However, these findings contribute to the knowledge base regarding perceptions and practices related to family meals and meal planning of AAs in the study population.

DISCUSSION

A high percentage (42%) of AA participants reported that they ate 2 or fewer family meals in the past 7 days, eating fewer than the optimal number of 5 per week. A comparable 2003 study¹⁹ showed 41% of AAs shared a family meal 2 or fewer times in the week.

Results clearly indicate that respondents recognize the importance of preplanning meals. While the majority of AA participants (75.24%) agree or strongly agree that preplanning a menu is an important strategy when planning family meals, a majority (68.92%) also indicated that busy schedules prevent them from preparing frequent family meals. Study participants with limited meal-planning practices were less likely

to participate in family meals. Preplanning meals appears to be an important behavior in making family meals a reality.

Preparing a grocery list before shopping is an indicator of preplanning, and 57.3% of responders only shop with a list some of the time to never. It was interesting to note that those who did shop with a grocery list participated in a significantly greater number of family meals per week.

Future research needs to be done to explore barriers to preplanning practices related to healthy family meals in this population. Effective preplanning strategies also need to be studied with this population. Preplanning related to healthier home food preparation methods is an area that also warrants future research.²⁰

CLINICAL IMPLICATIONS

Nurse practitioners need to assess and educate individuals and families on family meal frequency and the importance of meal planning. Healthy eating requires preplanning measures. Easy strategies to assist busy families with menu planning are needed. Families may benefit from helpful resources (Table 3). Teaching families to plan ahead through menu planning can help them increase the number of healthy and cost-effective meals. Encouraging families to shop with grocery lists that include food items needed for many meals is important. Time-saving methods for preparing foods ahead of time may help busy families

Table 3. Sample Meal Planning Web Sites, Apps, and Services and Sample Healthy Cookbooks

| Web Site/App | Cost | Features |
|---|--|---|
| Eatingwell.com | Free | Interactive menu planner, shopping list template, BMI calculator |
| Allrecipes.com Dinner Spinner app for smartphones | Free | Keep track of what's in the pantry and "spin" for recipes to make with those ingredients |
| Foodonthetable.com | Plans 3 meals/wk for free or \$5/month for daily menus | Integrates sale items from a favorite grocery store to create a customized meal plan and grocery list |
| Healthy Cookbooks | ISBN # | Description |
| Hungry Girl 1-2-3 | 978-0312556181 | 200+ guilt-free, easy recipes |
| The \$7 a Meal Slow Cooker Cookbook | 978-1440503382 | Favorable, easy main dishes for \$7 each |
| Holly Clegg's Trim & Terrific Freezer Friendly Meals | 978-0762425976 | 200 freezable, healthy, appetizing meals |

BMI = body mass index.

increase the number of family meals per week. Several examples of this include the use of a slow cooker or preparing extra portions of favorite meals and freezing them for meals in the future.

CONCLUSION

America is a nation of far too many obese people, and obesity leads to diet-related chronic diseases. In order to reduce the risk of developing these diseases, healthy dietary changes are needed. To effectively develop programs to teach healthy eating, first the barriers of preplanning and healthy meal preparation need to be explored, and factors that facilitate permanent changes in dietary behavior need to be identified.

Health care providers need to be aware of the increased rate of diet-related diseases among disadvantaged AA populations. Efforts must be made to inquire about family meal patterns and include education on the importance of preplanning family meals. Encouraging family meals is one of the important measures for improving dietary intake, decreasing obesity, and strengthening family units. **JNP**

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Acknowledgment

The project described was supported by Award Number P20MD002314-05 from the National Center on Minority Health and Health Disparities. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Center on Minority Health and Health Disparities of the National Institutes of Health.

1555-4155/13/\$ see front matter
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<http://dx.doi.org/10.1016/j.nurpra.2013.03.016>