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Meal Time in Less Time Improves Consumer's Attitudes, Beliefs and Behaviors in Planning and Preparing Nutritious Meals

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Abstract

A needs assessment conducted in the four Extension districts determined the number one health and nutrition priority to be learning how to plan and prepare quick and healthy meals. *Meal Time in Less Time* is a three-lesson curriculum developed to teach individuals and families how to plan quick and healthy meals, shop for nutritious foods while saving time and money, and prepare healthy meals in less time. A retrospective pre/post survey, given at the end of each lesson and one to three months later, indicated participants improved meal planning, shopping, and preparation attitudes, beliefs and behaviors.

Keywords: education, meals, nutrition

Introduction

Consumers are bombarded with messages from numerous sources, telling them the same thing: there is a need to change our eating habits to improve our current health and future health prospects. According to an Information Resources, Inc. (IRI) Consumer Snacking Study 2007, 78% of consumers reported that they were trying to eat healthier (IRI, 2007). Economic pressures, a desire to better control the healthfulness of what they eat, and a belief that family meals can have a positive impact on a child's academic and social skills are causing Americans to eat more meals at home (Sloan, 2008). Gallup reports that on a typical night in 2007, 89% of meal preparers made a dinner at home – 57% prepared the meal from scratch primarily with fresh ingredients, no mixes; 24% prepared their "home-cooked" meal with prepackaged foods that require some preparation; and 8% used only frozen or heat-and-serve pre-packaged foods (MSI, 2007).

Time (or lack thereof) seems to have a big impact on eating behaviors. One of the main barriers to planning regular and balanced meals is a busy lifestyle. Simple, quick dishes made from on-hand ingredients are most attractive to consumers. Fifty-six percent of consumers say they are looking for convenience foods to save them preparation and cooking time. As evidence, convenience food usage has increased 32% in ten years. Ideal preparation time for a recipe is 24 minutes (NPD, 2003). In fact, consumers generally care more about convenience than nutrition. However, when the NPD Group, Inc. asked over 50,000 meal preparers why they prepared the dish they made for supper, the top five reasons were: (1) required little effort or easy to make; (2) took little/no planning; (3) made with foods that are on-hand; (4) everyone would like; and (5) easy to clean up (NPD, 2006b). The next most frequent response was; "looking for a healthy, nutritious meal." With regard to convenient meal solutions, consumers are increasingly turning to refrigerated options, which they perceive to be healthier (IRI, 2005). Refrigerated side dishes that eliminate some of the most-time-consuming steps – peeling, chopping, mixing, and cleanup are leading the way. Busy lifestyles have shifted meal time from the family home and dinner table to eating in restaurants or on the run (such as in the car). One out of every five restaurant meals (22%) were purchased from a car in 2005, up from 14 % in 1998 (NPD, 2005a); 32 restaurant meals per person were eaten in the car, the highest level ever recorded by NPD.

Although trends are starting to change in the right direction, the lack of time and busy lifestyles still have many Americans choosing less healthy meal options away from home. Those who eat more meals away from home tend to have a higher prevalence of obesity (Ma et al, 2003). Children and teens that eat more meals at home with their families are more emotionally and socially stable; receive higher grades; attain more education; eat more fruits, vegetables, grains, and calcium-rich foods; and eat less saturated and trans fat, soda and fried food (Fulkerson et al., 2006; Gillman et al.,2000; Neumark-Szteiner et al., 2003). They are also less likely to use alcohol and drugs, be sexually active, and commit suicide (Fulkerson et al., 2006; Eisenberg et

al., 2004). Researchers say family meals may work in a variety of ways to help protect teens from negative influences. Family meals may provide a formal or informal "check in" time for parents to tune into their children's emotional well being; reflect a greater proportion of supervised time; reduce opportunities to engage in risky behavior; and increase time at home away from negative peer influences. Having family meals together has also been shown to improve the nutritional quality of the foods that children eat. It appears that individuals and families would benefit from learning how to plan meals, shop for nutritious foods, and adapt current favorite foods to be quicker to prepare and healthier to eat. Helping families learn to cook healthful, quick meals, may reduce dependency on less healthful meal options, reduce the frequency of eating outside of the home and promote greater nutritional intake (Fulkerson & Neumark-Sztainer, 2006).

Our Response

Extension Educators, working in the area of nutrition, obtained input from advisory councils and other stakeholders concerning priorities in health and nutrition. This needs assessment determined that the number one priority in health and nutrition was to learn how to plan meals that taste good and are quick to prepare. Health and Nutrition Topic Team members conducted a search for a curriculum that would meet this need. No curriculum could be found that contained all the topics requested by the stakeholders. Therefore, it was decided to develop a new curriculum addressing these issues. A Critical Issues Grant supported curriculum development and publishing.

Three Extension Educators took the lead in developing *Meal Time in Less Time*, a three-lesson curriculum for adult and young-adult audiences. The curriculum teaches individuals and families how to plan quick and healthy meals, shop for nutritious foods, and prepare healthy meals, while saving time and money. It was published by the College of Agriculture and Life Sciences Educational Communication Department in 2005. The curriculum includes a PowerPoint slide show for each lesson, a complete script for each lesson, participant handouts to photocopy, participant activities, evaluation tools, and advertising materials.

Program Outcomes

In 2007, a retrospective pre/post-survey was given to 59 participants at the end of each of the lessons to assess attitudes/beliefs and behaviors before the class and projected attitudes/beliefs and behaviors after taking the class. One to three months later a follow-up survey was completed by 38 participants to assess actual changes in attitudes/beliefs and behaviors. Participants indicated attitudes, beliefs, and behaviors, using a five-point Likert scale. Each point was assigned a number (1=strongly disagree to 5= strongly agree. The responses were averaged, with a higher average indicating more agreement with attitudes/beliefs or performance of behaviors.

A paired sample t-test was used to compare responses for before, after, and one-month following the program. See Tables 1-4.

Table 1. Average Responses for Attitudes and Beliefs in Pre and Post Surveys

Attitudes and Beliefs	Pre	Post	p value
I know the advantages of meal planning	3.26	4.56	0.000
I think it is important to plan meals	3.62	4.56	0.000
I understand what to consider when planning meals	2.84	4.34	0.000
I understand the benefits of using thrifty shopping tips	3.33	4.59	0.000
I understand the importance of handling food safely	3.50	4.56	0.000
I think it is important to evaluate the nutrition content of foods	3.40	4.60	0.000
I understand how to read a nutrition facts label	3.20	4.55	0.000
I understand time saving strategies for preparing meals	2.60	4.40	0.000
I understand how to make healthier recipes	1.54	4.46	0.000

Table 2 Average Responses for Behaviors in Pre and Post Surveys

Behaviors	Pre	Post	p value
I plan ahead for meals	2.60	4.38	0.000
I have easily accessible resources for menu planning	2.95	4.33	0.000
I evaluate my menus for nutrition	2.73	4.31	0.000
I evaluate my menus for ease of preparation	2.67	4.37	0.000
I practice thrifty shopping strategies to save time and money	3.10	4.43	0.000
When I arrive home after shopping, I immediately put away food items that need to be refrigerated or frozen	3.77	4.69	0.000

I use the nutrition facts label to evaluate the nutrition content of foods	2.88	4.46	0.000
I add whole grains, fruits, vegetables, and dairy products to my meals	3.24	4.53	0.000
I practice time-saving strategies for preparing meals	2.38	4.52	0.000
I use healthy food preparation methods	2.92	4.58	0.000

Table 3. Average Responses for Attitudes and Beliefs in Pre and Follow-Up Surveys

Attitudes and Beliefs	Pre	Follow-Up	p value
I know the advantages of meal planning	3.23	4.68	0.000
I think it is important to plan meals	3.63	4.70	0.000
I understand what to consider when planning meals	2.77	4.54	0.000
I understand the benefits of using thrifty shopping tips	3.33	4.60	0.000
I understand the importance of handling food safely	3.55	4.73	0.000
I think it is important to evaluate the nutrition content of foods	3.43	4.53	0.000
I understand how to read a nutrition facts label	3.31	4.57	0.000
I understand time saving strategies for preparing meals	2.62	4.38	0.000
I understand how to make healthier recipes	2.79	4.42	0.000

Table 4. Average Responses for Behaviors in Pre and Follow-up Surveys

Behaviors	Pre	Follow- Up	p value
I plan ahead for meals	2.65	4.06	0.000
I have easily accessible resources for menu planning	3.06	4.29	0.000
I evaluate my menus for nutrition	2.81	4.13	0.000
I evaluate my menus for ease of preparation	2.81	4.36	0.000

I practice thrifty shopping strategies to save time and money	3.24	4.53	0.000
When I arrive home after shopping, I immediately put away food items that need to be refrigerated or frozen	3.75	4.78	0.000
I use the nutrition facts label to evaluate the nutrition content of foods	3.00	4.19	0.000
I add whole grains, fruits, vegetables, and dairy products to my meals	3.23	4.44	0.000
I practice time-saving strategies for preparing meals	2.49	4.27	0.000
I use healthy food preparation methods	2.95	4.49	0.000

Additionally, post survey responses were compared to follow-up survey responses to see how predictive it was to use a post survey to project future attitude, belief, and behavior change. A paired sample t-test was used to compare the difference. See Tables 5 and 6.

Table 5. Average Responses for Attitudes and Beliefs in Post and Follow-Up Surveys

Attitudes and Beliefs	Post	Follow-Up	p value
I know the advantages of meal planning	4.55	4.68	0.20
I think it is important to plan meals	4.48	4.70	0.05
I understand what to consider when planning meals	4.35	4.57	0.06
I understand the benefits of using thrifty shopping tips	4.62	4.62	1.00
I understand the importance of handling food safely	4.58	4.73	0.14
I think it is important to evaluate the nutrition content of foods	4.60	4.53	0.50
I understand how to read a nutrition facts label	4.60	4.57	0.81
I understand time saving strategies for preparing meals	4.46	4.38	0.52
I understand how to make healthier recipes	4.53	4.42	0.32

Table 6. Average Responses for Behaviors in Post and Follow-Up Surveys

Behavior	Post	Follow-Up	p value
I plan ahead for meals	4.39	4.13	0.06
I have easily accessible resources for menu planning	4.23	4.30	0.65
I evaluate my menus for nutrition	4.33	4.13	0.21
I evaluate my menus for ease of preparation	4.36	4.36	1.00
I practice thrifty shopping strategies to save time and money	4.53	4.53	1.00
When I arrive home after shopping, I immediately put away food items that need to be refrigerated or frozen	4.68	4.78	0.25
I use the nutrition facts label to evaluate the nutrition content of foods	4.56	4.19	0.02
I add whole grains, fruits, vegetables, and dairy products to my meals	4.55	4.45	0.40
I practice time-saving strategies for preparing meals	4.54	4.27	0.04
I use healthy food preparation methods	4.61	4.50	0.32

Discussion and Conclusion

As a result of attending *Meal Time in Less Time,* participants appeared to improve meal planning, shopping and preparation attitudes and beliefs, plus made positive behavior changes. This was shown by the average scores for all attitudes/beliefs and behaviors increasing significantly from pre to post and from pre to follow-up.

While, there was obvious improvement from pre to follow-up, using a post survey only appeared to be a fair tool in projecting actual changes in attitudes/beliefs and behaviors. One attitude/belief and two behaviors were significantly different from each other between the post and follow-up surveys. Three variables (one attitude/belief and two behaviors) remained the same from the post to the follow-up. The attitude/behavior that remained the same was that participants understood the benefit of using thrifty shopping. This was mirrored in the behavior of practicing thrifty shopping strategies. Additionally, the behavior of evaluating menus for ease of preparation was the same in the post and follow-up surveys.

Even though there were few significant differences between the post and follow-up data, most of the averages went either up or down from the post to the follow-up. The averages for attitudes/beliefs that trended up dealt with understanding how to plan for meals, the importance of meal planning, and the importance of food safety. The averages for attitudes/beliefs that trended down over time were those that dealt with nutrition and time-saving strategies. On the behavior end, only the averages for two of the behaviors increased over time. They dealt with having resources for meal planning and practicing food safety. The averages for the behaviors that decreased dealt with actually planning meals, eating healthfully, and saving time.

Another interesting outcome of comparing post and follow-up survey responses was that the averages for attitudes/beliefs in favor of meal planning increased from post to follow-up while the corresponding behavior of actually planning meals decreased. From personal experience, it is easy to understand how one might project a certain behavior after taking a class on it, but actually following through with the behavior may be harder than previously thought. The Stages of Change Model (National Cancer Institute, 2005) may also explain the reason attitudes/beliefs are positive for one thing, yet the actual behavior is not there. Individuals may have been in a stage of change, such as contemplation or preparation, where they intended to change, but had not actually taken action and made the change, yet.

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