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# Evaluation of *Be Wise about Your Portion Size*: A Nutrition Education Program for Floridians

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## ABSTRACT

*In the U.S., obesity is recognized as a growing epidemic whose increased prevalence among adults, children and adolescents present major health concerns. It is the second leading cause of preventable death, surpassed only by tobacco use. Research indicates that controlling the portion sizes of food is an effective way to lose and maintain weight loss. The nutrition education program, “Be Wise about Your Portion Size (BWPS),” was developed in 2005 by the Florida Interagency Food and Nutrition Committee (FIFNC) to support the efforts of community-based nutrition educators. The resource manual provides background information about obesity, consumer handouts, and lesson plans and activities for preschool, elementary, teen, adult, and elder adult audiences. In 2009, FIFNC members engaged in a statewide evaluation to determine program use, demographics of users, strengths and weaknesses, and recommendations for future nutrition campaigns. The LOGIC Model of program evaluation guided the evaluation process. A 14-item online survey was completed by 256 community based educators, a 30% return rate. FIFNC members found that on-line surveys were efficient and effective tools for program evaluation. Survey results showed that 79% of participants used BWPS and found materials to be useful and effective. Respondents indicated that they reached more than 22,000 Floridians with the BWPS message and suggested that the real audience reached included tens of thousands statewide.*

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## Background

Obesity among children, adolescents, and adults is a growing health concern nationwide. In 2007, the prevalence of obesity in 30 states was greater than 25% (Flegal, Ogden, Carroll, & Curtin, 2010). An investigation of the prevalence adult obesity nationwide shows that no state has met the *Healthy People 2010* objective to reduce the prevalence to 15% and unreported data from the CDC estimates that 72.5 million are obese; 127 million are overweight. The 2007-2008 National Health and Nutrition Examination Survey [NHANES] data show that obesity affects 17% of children and adolescents – about three times more than a generation ago. This growing obesity epidemic places children at an increased risk for developing hypertension, diabetes, hypercholesterolemia, and adult obesity. Financially, the cost of treating childhood obesity exceeds \$3 billion annually (CDC, 2010).

Obesity affects men and women in all racial and ethnic groups, education levels and socioeconomic status, although Blacks, Mexican-Americans, and persons with limited resources are more likely to be obese than Whites and persons with more affluence. Realizing that the prevalence of overweight and

obesity had reached epidemic proportions, former U.S. Surgeon General, David Satcher, stated in 2001: “Overweight and obesity may soon cause as much preventable disease and death as cigarette smoking” (p. xiii).

Obese individuals are at increased risk for developing coronary heart disease, stroke, type 2 diabetes, hypertension, arthritis, and several cancers (Flegal, Carroll, Ogden, & Curtin, 2010). Obesity also contributes to rising direct and indirect health care costs estimated to be \$147 billion in 2008 (CDC, August 6, 2010). In Florida, the 2004 *Report of the Governor’s Task Force on the Obesity Epidemic* estimated that the total obesity-related medical expenditures for adults exceeded \$3.9 billion with Medicare and Medicaid financing more than half.

Several factors contribute to the development of obesity in an individual, most notably genetics, daily energy consumption, and level of physical activity. One factor that has received considerable attention in recent years is the portion size of foods consumed due to its effect on total energy intake. Young and Nestle compared the weight of ready-to-eat foods from 1970 through 1999 and discovered that marketplace food portions began to grow in the

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1970s, increased sharply in the 1980s, and have continued to climb. Today, they are considerably larger than federal standard serving sizes. In the last 30 years, both food portion sizes and average calorie intake have increased by 22% in women and 7% in men (Young & Nestle, 2002).

Despite these findings and the increased attention given to what has been called “portion distortion” on body weight, many Americans remain surprisingly unaware of how acceptable food portion sizes have changed. In a 2006 phone survey by the American Institute of Cancer Research [AICR], 62% of participants believed that the portion sizes of foods served in restaurants were about the same as 10 years ago and 80% reported that meals served at home were about the same or smaller (Wilburn, 2003).

Obesity research has suggested that portion control may be the single most effective behavior change needed to promote lasting weight loss. It further indicated that this behavior change may be easier to implement than other lifestyle changes such as increasing exercise (Obesity Research, 2004). A recent study followed 300 obese and overweight adults enrolled in a weight loss program. All received instruction for five different weight loss strategies, including increasing exercise and using portion control. In a two-year follow-up, investigators found that those who controlled their portion sizes were most able to lose and maintain weight loss. The combination of portion control and exercise lead to 5% more weight loss in 38% of participants compared to 33% who used exercise alone (Obesity Research, 2004).

In response to an environment that promotes overeating, nutrition educators face many challenges when teaching people of all ages to choose foods with appropriate portions. The nutrition and health communities are challenged to speak with one voice when communicating behavior change messages to the public. To help Florida’s nutrition educators meet this challenge and to stem the obesity epidemic, the Florida Interagency Food and Nutrition Committee (FIFNC) created the *Be Wise about Your Portion Size* (BWPS) nutrition education campaign in 2005.

FIFNC was established more than 30 years ago to provide a forum in which persons from those state agencies providing nutrition, food security, and food safety programs and/or services could share information and resources for program improvement. The collaborating FIFNC agencies include the Florida Area Health Education Centers (AHEC) Network, Florida Department of Agriculture and Consumer Services (FDACS), Florida Department of Children and Families (FDCF), Florida Department of Education (FDOE), Florida Department of Elder Affairs (FDOEA), Florida Department of Health

(FDOH), University of Florida Cooperative Extension Service (UFCEs) and Food and Drug Administration-Florida Division (FDA-FL).

In 2002, FIFNC members wrote their first nutrition campaign for state and national distribution. Campaign topics respond to national and state nutrition concerns. Since 2002, annual campaigns have addressed:

- *Eat Better for Le\$\$* (2009)
- *Wake Up To Breakfast!* (2008)
- *Fruits & Veggies—More Matters®* (2007)
- *Mooove to Low Fat Dairy* (2006)
- *Be Wise about Your Portion Size* (2005)
- *Snack Smart, Move More* (2004)
- *5 A Day the Florida Way!* (2003)
- *Mooove to Low Fat or Fat Free Milk* (2002)

The campaign’s resource manual includes materials appropriate for health professionals and educators in county health departments, schools, congregate nutrition sites, cooperative extension offices, AHEC programs, and related health organizations. Resource manuals provide a literature review, lesson plans and learning activities for preschool, elementary school, teen, adult, and older adult audiences, handouts, supplemental instructional materials, and a review of topic-specific web sites. A free download of each campaign is available at <http://www.fifnc.com>.

In 2005, the BWPS campaign was developed to support state obesity initiatives and teach Floridians how to incorporate portion control recommendations into their eating plans to improve the quality of their diets and support a healthy body weight. Although qualitative feedback from earlier campaigns indicated they were well received and extensively used statewide, no formal qualitative evaluation was available. Consequently, the Committee launched an evaluation project to collect feedback from users about campaign strengths and weaknesses, changes needed to improve campaign usefulness, and future topics to address. Included in this statewide evaluation were community-based educators from each FIFNC member who had used the BWPS campaign. Additional information was collected about the distribution and usage patterns and educator feedback about the campaign’s materials.

Program evaluation is a necessary and often overlooked component of public health practice. To ensure that evaluation of the BWPS program included all of the needed components, the Logic model of program evaluation guided the process. Logic models were developed in the late 1960s to provide a diagram and text showing the logical or

causal relationships among all program components. They are highly useful instruments because they identify the problem to be solved and measure program success. Logic models measure and demonstrate results and perhaps most important to community-based programs, identify the behavior changes related to the program (Taylor-Powell, 2005).

## Methods

### *Survey Design*

A 14-item survey was developed and reviewed for face validity by FIFNC members. Questions were assigned to demographics, program evaluation, or comments sections. The instrument used open and close-ended questions to evaluate distribution patterns of the resource manual, number of campaigns used by individual educators, and usefulness of lesson plans and activities for target audiences. The comments section invited participants to give feedback about materials that were particularly effective or not effective with audiences. This section also asked educators to identify topics for future campaigns and provide feedback to help improve future campaigns. Surveys were distributed using SurveyMonkey®.

### *Study Participants*

Two hundred fifty-six community-based nutrition educators from FIFNC organizations who had received copies of BWPS were invited to participate in this study. The number of educators from each organization differed due to program size and staffing patterns. Despite differences however, it was predicted that at least one person in each community-based office would participate. Participants were contacted by email and invited to participate; the message included a link to the instrument on SurveyMonkey®. Participants were also sent an informed consent that described how identity protection and anonymity would be managed. This study was approved by the Institutional Review Board at the University of Florida.

## Results

Initially, 300 prospective participants were identified using a master list that identified nutrition educators in each member agency. Of this total, 44 could not be located due to retirement, change of positions within the agency, or change in email address. From the remaining pool of 256 persons contacted, 78 (30%) submitted a completed survey. In a white paper issued in 2009, SuperSurvey conducted a meta-analysis of online survey instruments and discovered that the average response rate was 32.52%. (SuperSurvey, 2009). In this study,

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the highest return rates came from UFCES (27%), WIC (26%), and FDOEA (18%).

Analysis of questions in the demographic section showed that among the responding educators, 47% possessed graduate degrees, 64% had been nutrition, health, or family and consumer sciences educators for  $\geq 11$  years, and 99% were women. The majority had been in their current positions for ten or more years.

Responses to the program evaluation questions provided much useful information. Most (79%) indicated that they were using or had used the materials. Among those who did not use the materials, 56% noted that they simply did not get around to using them and 11% did not use them because they needed materials in a different language. The 2000 US Census reported that 23% of Florida households do not speak English as the primary language and among these, 10% speak English “less than very well.”

Overall, educators indicated that supplemental materials such as placemats depicting healthy meal composition and appropriate portion sizes of food groups were effective and useful for all age groups because they captured attention. Materials depicting the change in portion sizes over the last 20 years were very effective when teaching the importance of portion control. Educators reported that these visuals helped override some of the barriers imposed by language and other differences. The most widely used lesson plan was for adults with 51 educators (66%) used it. Educators used the consumer handouts, annotated web sites, and lesson plans most and press release and literature review least.

The comments section yielded helpful direction for future campaigns and further probed materials’ effectiveness. Educators found that the most popular or effective materials with audiences were consumer handouts and lesson plan handouts showing daily food guides and meal planning guides. Their selection may be due to the fact that both handouts offer pictorial displays of healthy eating. The food guides provide meal patterns and describe the amount of each food group to consume whereas the meal planning guides illustrate the contents of healthy sample meals and their correct food portions using common items such as a baseball or computer mouse for comparison. Both explain the correct way to measure food portions, suggest appropriate daily caloric intakes, show food intake patterns from *MyPyramid* (USDA, 2005), and offer information about hidden fats and added sugars.

Educators noted that the annotated websites were extremely helpful for instructors but not for the audience. The resource manual is designed for the educator and only the camera-ready consumer handouts and food guides are appropriate for

distribution to class participants. Another respondent noted that teens were not very interested in the materials and commented about the difficulty in reaching this audience unless instructors find ways to relate or make materials relevant.

Educators suggested the inclusion of menu items and more multi-media materials in future campaigns. One of them suggested adding information about how to eat healthy foods despite the current economic crisis. The target audience for most FIFNC agencies is residents of low income, rural and/or medically underserved communities who struggle more than most in lean economic times. This recommendation was of particular interest to the committee because it had already been identified as the topic to address in the 2009 campaign. Finally, when educators provided additional comments, they noted that participants were receptive to the BWPS campaign's information and seemed very open to making the changes needed to improve portion control.

### Discussion

Outcomes of BWPS evaluation is useful for planning and implementing future campaigns because it allows FIFNC members to identify the community-based agencies needing encouragement to participate in future evaluation projects. The survey results also suggest that campaigns may be used more widely if FIFNC marketed more by committee members and their agencies. Future efforts should give attention to promotions that stress the campaign's usefulness and value.

Although the feedback was overwhelmingly positive, some excellent suggestions were offered to improve future campaigns. First, when trying to teach nutrition concepts to individuals, language differences and communication barriers can hinder the ability to understand and apply information. Future campaigns will be more effective if they are distributed in both English and Spanish. Second, the literature review, intended to provide educators with background information, may be viewed as more instructor-friendly if the directions for use note that it is designed for instructors and not for distribution to class participants.

Study outcomes show that the BWPS campaign has been used widely by a variety of state agencies and overall, it is viewed as a useful educational tool. The campaign and its materials remain impactful and a large number of community residents have received and continue to receive information about portion sizes and healthful diets. BWPS and its instructional materials remain in use throughout Florida, years after the initial launch in 2005. To date, more than 22,000 Florida residents have participated in this campaign. Educators, overall, responded positively to

the *Be Wise about Your Portion Size* nutrition education campaign whose message has reached a variety of audiences to deliver the information needed to improve health.

### Conclusions

This campaign evaluation offered those educators who taught it with a forum to comment and affect the direction of future campaigns. Importantly, each was able to voice an opinion about campaign components, evaluate materials' effectiveness, and describe the revisions needed for campaign improvement. FIFNC members discovered that on-line surveys offer efficient and effective strategies for collecting information.

Evaluation outcomes suggest that the topic of portion control needs ongoing attention and the BWPS campaign successfully influences the obesity epidemic to promote improved lifestyles. On-line nutrition campaigns like BWPS have the capacity to reach tens of thousands of Floridians and consumers nationwide. This nutrition campaign and its subsequent evaluation provide information that may be used in the development of policies that enable Americans to take more active roles in their health. Perhaps this comment about BWPS from a cooperative extension educator says it best:

*We used the materials extensively and [it is] hard to give the exact number of people reached. Used press release and review of the literature for a news column reaching 56,000. Paraprofessionals were trained and provided with materials and they incorporated into their lessons with families - probably reaching at least 500. Displays were used at health fairs & are still being used. I will soon teach a class for health care using BWPS materials and a 4-H agent borrowed the display and used extensively. These materials were great!*

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