

# **Nutrition Education for Older Adults:**

## **Our Journey with the Senior Companion Group**

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FSHN 452 Concepts in Nutrition Education  
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April 30, 2013

## **Introduction**

Nutrition education is a central component necessary for the health and well-being of individuals. While nutrition attitudes, knowledge, and practices differ with age, a proper nutrition education curriculum can be useful for school-aged children, teenagers, younger adults, as well as the elderly population. Still, in order to be effective, nutrition education should focus on positive messages that are age appropriate, practical, and achievable. Specific topics should concentrate on beneficial outcomes of healthy eating behaviors. Nutrition education courses usually target young school-aged children because nutrition educators believe that teaching healthy food and eating habits at an early age may be the key to preventing chronic diseases and other health problems later on in life. In view of that, one of the more overlooked populations whom for the most part are lacking in their nutrition knowledge is the elderly. The reluctance to develop nutrition education programs for older adults exists because of the perception that they would not agree to such lifestyle changes (Chernoff, 2001). Although the senior population may seem set in their ways and resistant to change, nutrition education is essential as it may prove to be the deciding factor in a senior being able to retain his or her independence and dignity.

With Hawaii's elderly population aged 65 years and older expected to grow by 93.8% by the year 2030, it is imperative that nutrition education be offered to seniors to better prepare them for the aging process (Karel et al., 2007). The lack of nutrition knowledge by seniors goes on to affect eating attitudes, attention paid to nutrition information, and regularity of meals (Lin et al., 2005). Nutrition education can thus be used to promote the dietary needs for seniors which differ from younger adults, and ultimately improve their outlook on healthy eating. A study conducted by Son et al. showed that elderly females with an array of chronic diseases whom received weeks of nutrition education focusing on healthy food habits and dietary guidelines

improved their overall dietary attitudes and behaviors (2001). Hypertensive female participants showed improvement in their energy, calcium, iron, and vitamin A levels. Diabetic female participants improved their dietary habits by eating less refined starches and sugar, and instead increased their vegetable consumption and exercise (Son et al., 2001). Doshi et al. demonstrated that a ten week nutrition education and fitness course resulted in significant decreases in waist circumference, total cholesterol, and low density lipoprotein (LDL) levels in elderly black subjects (2008). A randomized control study conducted on a diabetic elderly population being put through a 10-week nutrition education course showed that majority of the participants had significant improvements in their fasting plasma glucose and glycated hemoglobin levels (Miller et al., 2002). Hence, while changes in diet and eating patterns may be most effective when implemented early in life, positive effects can occur at any age.

Because low-income older adults are often difficult to reach with nutrition education, one of the more effective approaches for delivering nutrition materials and information is the “train-the-trainer” method. The train-the-trainer tactic works by having a few qualified individuals learn a certain nutrition curriculum, so that they can pass on what they learn to another group of people (Progressive Training 2011). This strategy is an effective upstream line of attack that provides in-depth nutrition concept knowledge, instructor training, facilitation skills, and ultimately prepares the receivers to accept the part of the trainer so that they can play a role in developing and implementing nutrition education programs for other target populations.

Last fall, a needs assessment survey was conducted on the Senior Companion Group target population, which provided mixed results as far as areas in which possible intervention approaches would be fitting. The survey results showed that the seniors were fairly active, able to carry out activities of daily living on their own, and for the most part were aware of the

importance of eating and living healthy. Even so, a major area of concern for the Senior Companion Group was a lack of knowledge on how to live and eat healthy. The seniors expressed their desire for a source of guidance and reference that would help to improve their daily food-related decisions.

Our group worked together with the Nutrition for Education and Wellness (NEW) program to compile a string of nutrition education materials that could be presented to the Senior Companion Group. One of the curriculums designed by the NEW program which specifically targets older adults is the “Good grinding for wise dining” curriculum, which utilizes the train-the-trainer method to promote healthy eating attitudes and behaviors through simple, targeted messages. Accordingly, our group decided that an appropriate nutrition intervention for the Senior Companion Group would be to create a self-resource guide based on the *Good grinding for wise dining* curriculum featuring instruction on how to access and properly use available nutrition resources, and ways to improve dietary attitudes and behaviors. Our plan was to distribute the nutrition resource folders to the senior target group, and allow them to learn the content so that they could then pass on what they learned to their assigned clients, family members, and friends. In the process, the seniors are developing personal skills, strengthening community action, and creating supportive environments both for themselves, as well as other low-income seniors. All things considered, while aging is a natural part of life, maintaining nutrition adequacy, practicing good lifestyle habits, and eating a well-rounded diet can slow down the rate of aging and other age-related health problems.

### **Goals/Objectives**

Our group came up with four major goals for our semester project:

1. To provide educational materials to increase the likelihood of healthy food choices.

2. To provide practical nutrition education via adaptation and development of materials.
3. To safeguard the health and well-being of an elderly population.
4. To develop and implement evidence-based nutrition education materials using the train-the-trainer approach.

Our group came up with seven major learning objectives we hoped the Senior Companion Group would reach following our intervention efforts. Given a nutrition self-resource guide, seniors will:

1. Improve their outlook on nutrition and the importance of eating healthy.
2. Be able to correctly design a weekly meal plan.
3. Be able to accurately read and comprehend a food label.
4. Be able to accurately reproduce proper food safety practices.
5. Be able to correctly list the number of daily servings needed for each food group.
6. Make better food-related decisions.
7. Expand their diets to include more fruits, vegetables, and other healthful food options.

### **Methods/Materials**

**Methods.** The first meeting with the Senior Companion Group occurred in November 2012, during the fall semester. A needs assessment survey was conducted to determine any gaps in their nutritional knowledge (Appendix A). Based on this assessment, it was decided that the Senior Companion Group would benefit from nutrition education that included simple suggestions they could implement in their daily lives.

In December 2012, the group met with Naomi Kaneshiro of the Nutrition Education for Wellness (NEW) program. She provided ideas and possible nutrition education topics that could be included in the education materials being designed for the Senior Companion Group. She

also wanted the *Good Grinding for Wise Dining* lessons included in the education materials so the effectiveness of the curriculum with this population could be assessed. It was concluded that the proper nutrition intervention for the Senior Companion Group would be a nutrition self-resource guide featuring the *Good Grinding for Wise Dining* curriculum.

During March 2013, the Senior Companion Group was visited again and a pretest survey was conducted. The pretest was revised multiple times to fit the education level of the subjects. Following completion of the pre-test, the nutrition education materials were distributed. The packet contained the NEW program's *Good Grinding for Wise Dining* curriculum, instructions for reading a nutrition label, food safety information and recipes. After distributing the folders, the nutrition education materials were briefly explained and the participants were asked to read and use the information packet.

After one month, the Senior Companion Group was visited again to complete a post-test impact evaluation survey. The purpose of this visit was to determine if the seniors read the education materials and changed any aspects of their diet. During this time, they were asked to give feedback on the education materials and provide suggestions on how the resources could be improved. The results from each survey were compiled and analyzed. Our group also prepared a snack for the Senior Companion Group members using one of the recipes included in the educational packet.

**Budget.** The NEW program covered the cost of copying the education packets because the information being provided for the Senior Companion Group included the *Good Grinding for Wise Dining* curriculum.

**Materials.** (Appendix B) The nutrition education materials included a packet designed by the group. This packet included a summary of common problems related to aging, as well as

important changes in nutrition. The packet also included instruction on reading a nutrition facts label and how to interpret the information on the labels.

The next section of the packet included food safety tips such as refrigeration, preparation, and storing. The packet also included recipes that are simple and easy to prepare. Additional resources highlighting the main topics included in the packet were also included. The last section of the packet was four lessons from the *Good Grinding for Wise Dining* curriculum.

The members of the Senior Companion Group each received a folder containing the materials designed by our group, as well as additional materials provided by the NEW program. These additional materials included culturally specific recipes, food safety instructions with pictures, and how to use MyPlate.

***Pretest.*** The pretest was designed to evaluate the participants' knowledge of proper food safety procedures, food choices, reading nutrition facts labels, and food groups based on MyPlate before any nutrition education took place. The pretest was revised based on complications with completion of the nutrition assessment survey conducted during the fall semester. (see Appendix A1)

***Posttest.*** The posttest was designed to assess the effectiveness of the nutrition education materials given to the Senior Companion Group. The survey contained similar questions seen in the pretest. The purpose was to see if there were any changes in behavior and eating habits. The survey was revised based on difficulty completing the pretest. The sentence structure and format of the survey was adjusted to accommodate this population. (see Appendix A2)

## **Results**

### **Survey Sample Description**

During the pre-test, 67 participants from Senior Companion Group were present; all participant data was valid and eligible for evaluation. There were 54 participants included in the post-test. However, six posttest surveys were excluded due to failure to provide valid answers for the majority of the questions. Therefore, 48 data sets were used in evaluating the pre-test and post-test.

### **Impact of Intervention**

***Food label, MyPlate and food selection knowledge.*** When comparing the pre-test and post-test results, there were significant increases in the recognition of nutrition facts labels, healthy food choices and servings of food based on MyPlate (Appendix C: Figure 1, 2 and 3). In the pretest, 34.3% of the participants correctly answered the food label knowledge question while 45.8% of the posttest participants answered the question correctly. A comparison of pretest and posttest data revealed an 11.6% difference in food label knowledge. The MyPlate and food selection knowledge comparison had a greater significance. 31.3% answered the MyPlate knowledge question correct in the pretest and 58.3% answered the question correctly in the posttest. The difference between the pretest and posttest for the MyPlate knowledge question was 27%. The difference for correct food selection knowledge increased from 37.3% to 68.8%, which was the greatest area of knowledge improvement (31.5%).

***Meal planning and food safety knowledge.*** Although there was an increase of meal planning in knowledge and food safety knowledge, the difference between the pretest and posttest for both comparisons were very little (Appendix C: Figure 4 and 5). The participants' ability to plan meals before grocery shopping increased from 82.1% to 85.4%. As for the understanding of thawing raw chicken, the population increased from 70.1% to 70.8%. Overall, most of the seniors do know tips to grocery shopping and proper food safety.



***Fruits and vegetables behaviors.*** The “importance of eating more fruits and vegetables” was a message heard by a higher proportion of posttest versus pretest respondents (Appendix C: Figure 6 and 7). Positive movement was observed for both fruits and vegetables consumption. Fewer seniors from the posttest reported to consume one or less servings of fruits and vegetables per day, compared to pretest participants. Approximately one-third of the posttest participants are consuming between two to three servings of fruits and vegetables a day.

### **Intervention Evaluation**

Overall, majority of the posttest participants found the nutrition education materials informative (96%). More than half of the participants (59%) admitted to sharing the education materials with at least one other individual. Last but not the least, 58% of the posttest respondents believed there was enough information included in the folders.

The results of both surveys indicate that more nutrition education needs to be offered to this population. With the amount of time allotted to implement the intervention and evaluate the effectiveness, there is insufficient evidence that the intervention was completely successful. Considering the amount of time between the intervention and evaluation, there was some improvement in nutritional knowledge. Based on the results of the posttest, the nutrition education materials provided for the Senior Companion Group were useful, but it is also noted that many participants did not review the materials thoroughly.

### **Suggestions**

There are several suggestions for future projects. First, a progress test can be inserted in between the pre-test and post-test. Although the pre-test and the post-test are used as standards to monitor improvements regarding nutrition knowledge in the target group before and after reading the nutritional materials, a progress test could reflect the effectiveness of the

nutritional education materials based on the population's performance and response. If they show strong improvements, the amount of educational materials could be increased. If progress was slow, adjustments would be made to future materials and distribution to best fit their level of readiness or interest. A progress test would be the midpoint assessment or another starting point; whereas, the post-test is the end point of the project.

As for developing questions for the surveys, as well as information on nutrition education materials, there are many factors that need to be taken into consideration. For example, font size needs to be adjusted due to possible vision problems in the target population. Moreover, the questions and educational information should be kept simple and to the point to avoid confusion for the participants. The message needs to be simple yet convey the meaning effectively. Besides the text and sentence structure, incorporating meaningful pictures would also be beneficial. These pictures would reinforce the concepts and importance of the nutrition education.

Another suggestion for improvement would be increasing the frequency of the nutrition education for the target population. During this semester, the Senior Companion Group was only available on two occasions. On the first visit, the educational materials were distributed and a brief explanation was given. The second visit only allowed enough time to do an evaluation of how the materials were used, if they were used at all. If more meeting times had been available, each section of the packet could have been broken up and reviewed on different days. Each meeting could feature a new lesson, where the participants would be able to learn more with only one topic per meeting.

Education materials could be in various forms such as handouts, pamphlets, recipes, nutrition facts and cooking video. By incorporating different types of education materials, we

could determine which type of education materials are most effective with the population and adjust the materials to fit learning styles and education levels.

Last but not least, use of standard indicators to track improvements regarding the nutrition knowledge in the target group could be applied. The pretests, progress test, and posttest are indicators of knowledge but other methods could be used. They could be in the form of activities, such as Jeopardy or trivia competition that does not require literacy to complete. The main goal is to have the seniors engaged in the nutrition education.

For future projects, there should be more frequent meetings as well activities that would help communicate information. Activities should be focused on communication and finding common ground, so relaying information is not so difficult. The communication and teaching process can trigger the participants' enthusiasm about nutrition and also reflect their learning progress. Most importantly, the contents of nutrition education materials would be more diverse and straightforward, while still focusing on adjusting one issue at a time without overwhelming the target group.

### **Conclusion:**

Overall, the nutrition education materials provided for the Senior Companion Group, given the amount of time, were effective. The purpose of the materials was to utilize the train-the-trainer approach. The needs assessment revealed a gap in nutritional knowledge within this population, so it was determined that the appropriate intervention would be providing important basic information that the members of the Senior Companion Group could use for themselves as well as their clients. The data provided from the surveys indicates that there is still a nutritional knowledge deficit within this group. Improvements need to be made in designing an effective

nutrition intervention for this population. Complications arose due to a lower education level for majority of the participants. This needs to be taken into account when designing an effective intervention. There continues to be gaps in the knowledge that seniors possess about nutrition. More action needs to be taken to improve nutrition education for older adults.

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