International Forum
Vol. 13, No. 1
April 2010
pp. 30-38

FEATURE

Targeted Approaches for Vegetarian Nutrition Education

Miriam R. Estrada

Abstract*: The health benefits of the vegetarian diet are recognized globally. Much of this understanding has come from studies showing that Seventh-day Adventists practicing a vegetarian lifestyle can live longer and healthier. The church recommends, but does not require reforms in health, which include a vegetarian diet, however, some still do not practice it due to lack of adequate knowledge and prejudice because of the way the message is presented. Ideally, the vegetarian lifestyle should start at an early age, however, most children have an aversion to vegetables and fruits and a preference for high fat, high protein and high calorie foods. There is therefore a need to have a targeted approach that will motivate the increased intake of fruits and vegetables and present the principles of a vegetarian lifestyle to groups such as children and the Adventist church members. A study of the nutrition knowledge, attitudes and practices of Filipino Seventh-day Adventists has resulted in an approach that effectively addresses the specific dietary needs of its members. This approach accentuates the positive and eliminates the negative themes of the past. When targeting children, an approach that works well is the use of colors in foods, rather than nutrients. This approach helps uphold the unique health message of the church.*

The entire world is recognizing the health benefits of a vegetarian diet. Approximately 2.3% of the adult population of the United States (4.9 million people) consistently follow a vegetarian diet (Stahler, 2006). In the United Kingdom, 3% consider themselves as completely vegetarian (Food Standards Agency, as cited in the Vegetarian Society, 2010). In Canada, 10% call themselves “vegetarian” (Ipsos-Reid, 2004).

Consumer Trends

There is increasing interest by consumers in eating vegetarian meals. Many are now shifting to a vegetarian diet (Lea, Crawford, & Worsley, 2006), or at least eating vegetarian part of the time. In the United Kingdom (UK), the vegetarian food market has grown because consumers crave variety. Additional evidence for the increasing interest in vegetarian diets includes the emergence of short courses on vegetarian nutrition and on animal rights, the proliferation of web sites, periodicals, and vegetarian cookbooks; and the public's increasingly positive attitude toward ordering a vegetarian meal when eating away from home. School food services also now offer vegetarian options. Restaurants and fast foods have responded to this growing interest in vegetarian diets by offering salads, veggie burgers and other meatless options. A survey of chefs found that vegetarian dishes were considered "hot" or "a perennial favorite" (National Restaurant Association, 2007).

Vegetarian Research

Much of the understanding of the advantages of a vegetarian diet has come from studies showing that Seventh-day Adventists practicing a vegetarian lifestyle can live longer and healthier lives (Willett, 2003). Research funded by the U.S. National Institutes of Health has shown that the average Adventist in California lives 4-10 years longer than the average Californian. The National Geographic published this research as the cover story of the November 2005 issue. It showed that Adventists live longer because they do not smoke or drink alcohol, have a day of rest every week, and maintain a healthy, low-fat vegetarian diet that is rich in nuts and beans. The cohesiveness of Adventists' social networks has also been put forward as an explanation of their extended lifespan. The Adventist emphasis on health, diet, and Sabbath-keeping are cited as primary factors for Adventist longevity (Buettner, 2005).

Research on Adventist Members

Man's original diet was vegetarian, consisting of "herb bearing seed" and "fruit yielding seed" (Genesis 1:29). The Adventist church has highly recommended, but not required that members follow a lacto-ovo vegetarian diet. However, while vegetarian nutrition has long been a tenet of the Adventist lifestyle, this abstinence from flesh has not always been embraced with fondness (Blix, 1994). Only an estimated 35% of Adventists practice vegetarianism, according to a 2002 worldwide survey of local church leaders (General Conference of Seventh-day Adventists, 2002). Durante, in his book *Documented Answers on SDA Issues* (1994) cites the following reasons: many are still studying about it; others are not yet enlightened; many try but rise and fall; and others are prejudiced because of wrong presentations made by condemning,

instead of convincing lecturers. With reasons like these, it is evident that there is a need for an appropriate approach in presenting the principles of a vegetarian diet to the Seventh-day Adventist church members who are encouraged to advocate a vegetarian lifestyle.

Research on Children

As Pilant (as cited in Kodama, 2008) states "We must begin with the children, if we are to have a healthy nation." Obesity among children and adolescents has increased rapidly in the last 30 years, and is now regarded as a major public health problem in the United States (Wang & Beydoun, 2007). With over 23 million overweight or obese children and adolescents in the US, the risk for many chronic diseases continues to increase. In Japan, 10-20% of obese children are affected by metabolic syndrome – type 2 diabetes mellitus, high blood cholesterol levels, high blood pressure and liver function abnormalities. The causes of obesity are unhealthy dietary and lifestyle habits, habits which are formed in childhood and continue into adulthood (Kodama, 2008).

A large body of epidemiological studies suggests that a vegetarian diet helps promote health and prevent chronic diseases. However, the favorite foods of children include animal foods high in fat, sodium, and cholesterol brought about by the proliferation of fast food restaurants. Most children eat far less than the recommended five servings of fruits and vegetables per day. Studies have shown that food preferences and eating habits, including eating fruits and vegetables are established early in life and tend to be maintained in adulthood (Mette, et al., 2006). This makes increasing fruit and vegetable consumption among children an important public health issue.

Among US children, almost half (46%) of the total vegetable consumption consists of fried potatoes, while only eight percent comes from dark green or orange vegetables. The researchers concluded that "children should be targeted for nutritional intervention to increase daily fruit and vegetable consumption" ("Inadequate fruit and vegetable consumption," 2009, para. 5).

The unpopularity of fruits and vegetables is confirmed by the results of the 2003 Food Consumption Survey of the Food and Nutrition Research Institute (FNRI). The survey showed that the consumption of fruits and vegetables remains low, particularly among children despite all the benefits that can be gained from eating such (FNRI, 2003). There is clearly a need to have a targeted vegetarian nutrition approach in presenting the principles of a vegetarian lifestyle to children.

Targeting Nutrition Messages

Targeting involves the development of a single intervention approach for a defined population subgroup that takes into account characteristics shared by the subgroup's members (Schmid et al., 2008). A targeted promotion program measures participants' needs, interests and concerns and uses that information to create health messages and materials to fit them (Kreuter & Skinner, 2000).

In targeting health messages, targeted communications must have messages designed for defined groups. Audience segmentation will simplify the message strategy because the more diverse a target audience is (e.g., the general public), the more difficult it is to deal with. It is important to identify subgroup characteristics (e.g., beliefs, preferences, needs), then create different messages/campaigns for each segment of the audience. Experience has demonstrated that audiences respond better to messages that are appropriate and relevant to them.

The defined population subgroups that need a targeted approach are Adventist adult members, and children. Their interests, concerns and characteristics will be examined so a vegetarian nutrition education strategy can be designed to fit them.

Targeting Church Members

To increase the effectiveness of health promotion programs aimed at advocating vegetarian dietary principles, the existing knowledge, attitudes and practices on diet and nutrition of the Filipino Adventist church members was studied (Estrada, 2003). Properly identifying and understanding the target audience is an essential element in planning a nutrition education program.

Filipino Adventist Research. One study involving 1134 Adventist members of the North Philippine Union Conference (Estrada, 2003) showed that as a group, the respondents had good knowledge about nutrition. Those with higher educational attainment, older respondents, and those exposed to a vegetarian diet had better nutrition knowledge. Those who had a high level of nutrition knowledge ate less meat and more fruits.

As a group, the respondents had an uncertain attitude towards a vegetarian diet. The respondents had moderately positive attitudes on the theoretical aspect of the vegetarian diet, but they had uncertain attitudes toward dietary practice. The dietary attitude statements where the respondents had an uncertain attitude were mostly on the actual eating aspects and the difficulty of practicing a vegetarian lifestyle. The statements with the lowest mean score were: "It is harder to prepare vegetarian meals than non-vegetarian meals." "A vegetarian lifestyle is hard to follow." "A vegetarian diet is too restrictive–too many foods to avoid." "Often delicious foods are bad for health." "I get discouraged with

some arrogant vegetarians." "I am turned off with people who claim that non-vegetarians will not be saved."

Those who had a positive dietary attitude ate more fruits and vegetables, more legumes, less meat and fish, and more fruits. The study shows that those who had high nutrition knowledge and positive attitude ate a vegetarian diet.

Thirty-three percent (33%) or one third of the respondents considered themselves vegetarians. One percent (1%) considered themselves vegans, six percent (6%) lacto-ovo vegetarians and 26% pesco vegetarians. Sixty-seven percent (67%) were omnivores.

Health (62%) was cited as the most important reason for adopting a vegetarian lifestyle, while religious reason (26%) was the second most important factor. In contrast, the primary reasons for not becoming a vegetarian were non-conducive work and family situation, inadequate knowledge and skill in vegetarian preparation and a developed taste for meat. These reasons show the need for a nutrition education program which will address these issues.

Since one of the major reasons for not becoming a vegetarian is inadequate knowledge and skill in vegetarian preparation, it is recommended that cooking schools be conducted in churches. Since the negative approaches to a vegetarian diet affect the attitude of church members' decision to adapt a vegetarian lifestyle, a vegetarian nutrition education program that is behavior-focused, research-based and client-centered was developed.

Vegetarian Lifestyle Program: A Positive Approach. The Seventh-day Adventist Church through the General Conference and other health care institutions has undertaken strong nutrition education programs for health promotion. A vegetarian lifestyle program using a positive approach was developed based on the findings of the knowledge, attitude and practices of Filipino Adventists in the area of diet and nutrition. The program aims to provide positive learning experiences that will develop and maintain patterns of food selection and nutritional behavior towards good health and well being.

Vegetarianism is the theory and practice of living wholly on vegetables, fruits, grains, nuts and sometimes eggs or dairy products (Merriam-Webster's Collegiate Dictionary, 2003). The emphasis is the inclusion of largely or mostly plant foods. Willett (1999) says that there is a shift in thinking that has occurred in the past decade regarding vegetarian diets. He points out that there was a time when the focus was on foods, such as meat, that were *excluded* from the diet. However, more recently, the trend has been to focus on the benefits of the *inclusion* of certain foods such as fruits and vegetables, whole grains, nuts, and legumes.

The avoidance of red meat is likely to account in part for low rates of chronic diseases, but this does not appear to be the primary reason for good

health in general. Evidence accumulated in the past decade emphasizes the importance of adequate consumption of beneficial dietary factors rather than just the avoidance of harmful factors, including an abundance of fruits, vegetables, and whole grains and nuts (Willett, 1999).

The vegetarian nutrition education approach in the past focused on the avoidance of meat which increases risks to chronic diseases and inflicts cruelty to animals. Because of findings such as those listed above, dietary recommendations have also shifted emphasis. They have shed the negative themes of the past dietary guidelines which instructed the public to eat less, avoid, abstain, discard, limit, delete, or reduce. The "eat less" foods were emphasized (sugar, salt, alcohol, meat, cholesterol, fat). The new approach accentuates the positive. Dietary guidelines now emphasize the "eat more" foods – fruits, vegetables, grains, nuts, and legumes.

The positive approach to a vegetarian diet is the increased intake of plant-based foods such as fruits and vegetables, whole grains, nuts, legumes. These foods have been found to promote health, strengthen the immune system and prevent diseases. With the negative and traditional approach of avoidance, people tended to see a vegetarian lifestyle as difficult and complicated because of the many foods to avoid. According to Covington (1999), however, "eating as a vegetarian is not as complicated or difficult as once thought. Vegetarians often think of their diets in terms of the foods they want to avoid. Instead, they should think in terms of foods they should include" (p. 820).

Targeting Children

One of the feeding problems among children is food preferences. Many children accept a very limited number of foods and reject others. Most children prefer to eat meat and sweets over fruits and vegetables which are the components of a vegetarian diet. What information or characteristic of children can be used to create health messages and materials to fit them?

The "Color Your Meals" Approach for Kids. Basic nutrition principles and concepts such as identifying nutrients, their functions and sources are not children's concern or interest. Health and nutrition issues are not significant to a child's outlook. The more they are taught the nutritional content of foods and the more they are forced to eat things they dislike, the more aversion they may develop towards fruits and vegetables. In order to take in the broadest spectrum of essential nutrients, however, it is important to eat as many *colors* of fruits and vegetables as possible. Fruits and vegetables can be grouped into colors, and nature has color-coded them to provide some directions on healthy eating. The more colors on the plate, the greater the variety of nutrients that will be supplied.

Color is something children understand and are attracted to. One of the earliest things a child learns is to identify colors. Before they can even write or

read, they can identify colors. Their interest in and ability to identify colors can be a tool to increase their intake of fruits and vegetables. Even the colors of the rainbow are learned at an early age.

Let children think of Roy G. Biv. The letters in Roy G. Biv stand for the seven colors of the rainbow: red, orange, yellow, green, blue, indigo and violet. Enhance the child's eating by adding a fruit or vegetable to their diet with different colors each day of the week. The natural colors of foods please the eye and add health-boosting nutrients to the diet.

The “eat a rainbow a day” strategy is a means to help children eat a healthy plant-based diet. To eat a rainbow a day means simply to eat all the colors of the rainbow each day. A variety of colors ensures a variety of nutrients. “Color your meals” for optimum nutrition is a positive strategy to increase fruit and vegetable intake for children.

Conclusion

Health professionals should aim to meet the wants, needs, and interests of target groups when developing programs. Health messages must attain some level of personal significance in order to have an effect on behavioral change. Designing vegetarian nutrition education programs customized to client profiles and characteristics can maximize the strength and influence of the health message. Health professionals should provide current, accurate information about vegetarian nutrition using innovative nutrition education programs. After all, “how something is taught is just as important as what is taught and the most important part of how something is taught is the caring, respect and shared concern that goes into it” (Werner & Bower, 1982, p. 14).

References

Blix, G. (1994). Vegetarianism: An ecological perspective. In *Nutrition 2000 Proceedings*. Loma Linda, California; Andrews University.

Buettner, D. (2005, November). The Secrets of Long Life. *National Geographic*, 22–27.

Covington, J. (1999). Protein sources in a healthful vegetarian diet. *Journal of the American Dietetic Association, 99(7)*, 820.

Durante, G. (1994). *Documented answers on Seventh-day Adventist issues.* Quezon City, Philippines: Streams of Light Publications.

Estrada, M. (2003). *Knowledge, attitudes and practices on diet and nutrition of Filipino Seventh-day Adventists: A basis for the development of a vegetarian lifestyle program* (Unpublished doctoral dissertation). Adventist University of the Philippines, Cavite, Philippines.

Food and Nutrition Research Institute. Department of Science and Technology (FNRI-DOST). (2003). *2003 food consumption survey of the food and nutrition research institute.*

General Conference of Seventh-day Adventists. (2002). *Three strategic issues: A world survey.* Retrieved from http://206.220.88.217/flagship/assets /strategic-issues-report.pdf

Inadequate fruit and vegetable consumption found among U.S. children. (2009, March 6). *Science Daily.* Retrieved from http://www.sciencedaily.com /releases/2009/03/090302183254.htm

Ipsos-Reid Corporation. (2004). *Canadian consumer perceptions of food safety and quality.* Retrieved from http://www4.agr.gc.ca/AAFCAAC /displayafficher.do?id=1177941566829&lang=e

Kodama, H. (2008). Dietary habits that protect children from lifestyle-related diseases: From the perspective of dietary education. *Japan Medical Association Journal, 51*(5), 303-309.

Kreuter, M. W., & Skinner, C. S. (2000). *Tailoring: What's in a name?* Durham, England: Oxford University Press.

Lea, E. J., Crawford, D., & Worsley, A. (2006). Public views of the benefits and barriers to the consumption of a plant-based diet. *European Journal of Clinical Nutrition, 60*, 828-837. doi:10.1038/sj.ejcn.1602387

Merriam-Webster's collegiate dictionary. (10th ed.). (1993). Springfield, MA: Merriam-Webster.

Mette, R., Knut-Inge, L., & Johannes, E. (2006, August). Determinants of fruit and vegetable consumption among children and adolescents: A review of the literature. Part I: Quantitative studies. *International Journal of Behavioral Nutrition and Physical Activity, 3*(22). doi:10.1186/1479-5868-3-22

National Restaurant Association. (2007, October). *What's hot, what's not.* Retrieved from http://www.restaurant.org/pdfs/research/200711chefsurvey.pdf

Schmid, K. L., Rivers, S. E., Latimer, A. E., & Salovey, P. (2008). *Targeting or tailoring? maximizing resources to create effective health communications.* New Haven, CT: Department of Psychology, Yale University.

Stahler, C. (2006, December 20). *How many adults are vegetarian?* Retrieved from The Vegetarian Resource Group: http://www.vrg.org/journal/vj2006issue4/vj2006issue4poll.htm

The Vegetarian Society. (2010, August). *Information sheet.* Retrieved from http://www.vegsoc.org/info/statveg.html

Wang, Y., & Beydoun, M. A. (2007). The obesity epidemic in the United States—gender, age, socioeconomic, racial/ethnic, and geographic characteristics: A systematic review and meta-regression analysis. *Epidemiologic Reviews, 29*(1), 6-28. Retrieved from http://epirev.oxfordjournals.org/content/29/1/6.full

Werner, D., & Bower, B. (1982). *Helping health workers learn.* Palo Alto, CA: Hesperian Foundation.

Willett, W. (1999). Convergence of philosophy and science: The third international congress on vegetarian nutrition. *American Journal of Clinical Nutrition, 70*(3), 434S-438S.

Willett, W. (2003). Lessons from dietary studies in Adventists and questions for the future. *American Journal of Clinical Nutrition, 78*(3), 539-543.

Miriam R. Estrada, RND, DrPH
Dean, College of Health
Adventist University of the Philippines
Puting Kahoy, Cavite