J Community Nutrition 2(1) : 62~70, 2000

New Directions in Communicating Better Nutrition to Older Adults

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ABSTRACT

Nutrition education should be an important component of ongoing health promotion for older adults and their caregivers. This is because prevention through sound nutrition and food hygiene practices and regular exercise is the most cost-effective way to reduce risks for and deal with their major health problems. Nutrition education services should effectively promote optimum intake and successful self-care. Unfortunately, however, relative to other vulnerable groups, nutrition education for older adults has not been systematically developed or evaluated. Usually older adults care a lot about their health, so this should be a relatively easy group to teach – but their increasing numbers, longevity and great diversity with respect to health, physical, and economic status and educational level present challenges. Some older adults may not perceive they would benefit from nutrition education, so interesting and motivating them is a challenge. The food and nutrition knowledge of older people has been acquired through a lifetime of experience. For most older adults in the Asian region, their sources are restricted by their restricted education, so that their major sources of information have been informal sources, such as television, radio, friends, family, and perhaps newspapers and magazines if they are literate. Nonetheless, dietary advice for older people should build on their existing knowledge and ingrained values. It should provide information useful in daily food selection, and focus on food, not nutrients – the same foods and groups considered appropriate for younger people, with consistent messages as given throughout the population. Attention must also be paid to discovering learning styles in older people. When we teach in schools, the young students are a captive audience resigned to their learning role. Learning by an older adult, however, reflects an effort to meet his or her perceived needs. Therefore, nutrition education should be a positive experience in a non-threatening environment, relaxed and non-competitive, and perhaps even social environment. The messages also need to be practical and achievable. A needs assessment is essential, because our ability to provide the most effective nutrition education will depend on our success in matching the needs, both perceived and unperceived, of this vulnerable group. Therefore, go to the potential older learners to assess their interest and preferences. Nutrition education activities for older adults are widespread, but few have been evaluated. Evaluation is therefore also recommended, particularly when new methods are used. Tips from other countries for giving successful nutrition education will be given, including some examples of applications as attempted in Hong Kong. Research needs will also be described. In conclusion, successful nutrition education for older adults depends on positive needs-based messages. This is may be hard to do, as few good examples are available to illustrate these principles. (*J Community Nutrition* 2(1) : 62~70, 2000)

KEY WORDS : nutrition education · older adults · needs assessment · educational strategy · evaluation.

The Challenges of Reaching Older Adults

Nutrition education should be an important component of ongoing health promotion for older adults and their caregivers. This is because prevention through sound nutrition and food hygiene practices and regular exercise is the most cost-effective way to deal with their

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major health problems. Nutrition education can also enhance long-term therapy outcomes as well. Many examples can be given in which changing a dietary habit can provide an acceptable alternative to taking medication for a health condition. Carefully planned nutrition education services should effectively promote optimum intake and successful self-care, lowering the risk of chronic diseases and their adverse outcomes. Even medical as well as nutrition personnel should focus some attention on the health and lifestyle habits of their older clients, not just viewing their role as disease-oriented and exclusively biomedical in content(Haber).

Unfortunately, however, relative to other vulnerable groups, nutrition education for older adults in Asia and elsewhere has not always been systematically developed or evaluated. This may be perhaps due to a focus on younger groups who are at earlier stages in life, in hope of facilitating the creation of a healthier older adult population. It also may be due to the emphasis in many healthcare systems curative rather than preventive models. In China, because of the one-child policy, it is estimated that by the year 2017, 30% of the persons aged 75 or older will have only one child. So, in order to ease the pressure on the only children, who are expected to be the caregivers of their elderly parents, health education programs promote healthy behaviors, including nutrition, exercise, smoking cessation, and obtaining needed medical care, to older adults are hoping to reduce dependency in old age. And, young-old volunteers who can help care for frail elders are also being deployed(Chi 1999).

Usually, because of their firsthand experience and that of their peers in coping with chronic disease, older adults care a lot about their health, and are more motivated to change behavior than other age groups(Ferrini et al. 1994), so this should be a relatively easy group to teach. However, their increasing numbers, longevity and great diversity with respect to health, physical, and economic status and educational level present challenges. Much of the nutrition education for older adults focuses on their "problems" or "deficits" without taking into account their already pre-existing health-promoting behavior, which has already enabled them to reach their advanced age. Therefore, nutrition education for older adults should build on and emphasize the familiar, as even the meaning of health is embedded in their long lives. For example, many of the current elderly have healthier dietary preferences than members of younger generations who have adopted more nutrient-poor, energy dense snacks and beverages and fast foods into their diets. Therefore, by recognizing these pre-existing health-promoting habits, and promoting their continuance and benefits, the nutrition education will be more acceptable to them.

Some older adults may not perceive they would benefit from nutrition education, so interesting and motivating them is yet another challenge. A survey of 66 older men aged 70–93 years and living alone in Sunderland in the UK showed that while almost half of them had energy intakes below the recommended levels, and a majority of them tended to be underweight, only half of them perceived that they would benefit from nutrition education(Charlton 1997). Although they generally perceived that food is helpful to maintain their health, motivating them to find out how they could be taught or encouraged to eat better then becomes a challenge given their disinterest in participating in such activities. They responded with comments like "can't see how I'll be better off", and "not worth it when you're old", or "not necessary when you feel fine". In contrast, a group of

relatively well-educated respondents in rural New Zealand surveyed about their nutrition information sources revealed great interest in receiving more nutrition education pamphlets and information from their General Practitioners(Silvester & Horwath 1990). However, among the lower socioeconomic groups, interest was lower, indicating a greater challenge to reach the lower socioeconomic groups whose diet may also have been poorer and therefore their need for nutrition education greater.

Before nutrition services are offered, it must be found if the targeted individuals would use them. A rural US study in Pennsylvania tried to find out (1) if older low-income individuals would use preventive services if offered, (2) who would most likely use them, and (3) under what conditions would they be most likely to be used(Lave et al. 1995). For this research, elderly Medicare participants completed a Health Risk Appraisal interview along with some laboratory screening measurements. Subsequently, they were randomly assigned to two groups : hospital-based(n=1,210) or physician-based(n=1,231), and were given waivers of fees for the services. Three programs were offered, with 44.8% attending at least one session of a nutrition program, 17% attending at least one session of the smoking program, and 57.7% receiving an influenza immunization. Results showed that for those eligible for the nutrition program, people with more education were more likely to attend over those with less education, and those who were assigned to physicians' offices were more likely to attend than those assigned to a hospital-based program. The researchers concluded that low-income older adults would be more likely to use preventive services if (1) a physician, as opposed to other health care providers recommended them (2) the service required less involvement on their part or behavior modification(nutrition and smoking vs. immunization) and (3) they had more education. Note that as in the New Zealand study, the more educated groups, those presumed to be at less risk, were the ones more likely to take advantage of the service.

The food and nutrition knowledge of older people has been acquired through a lifetime of experience. For most older adults in the Asian region, their sources of nutrition and health information are restricted by their restricted education, so that their major sources of information have been informal sources, such as television, radio, friends, family, and perhaps newspapers and magazines if they are literate. The older Chinese adults and sometimes their younger family members, for example, embrace many traditional beliefs and taboos about eating during illness, such as not eating chicken or oranges if they have a cold. Additionally, many Chinese families drink the broth, but discand the solid ingredients when eating soup. Although following these habits not in themselves dangerous, they may not be completely without harm for a marginally nourished or frail individual.

Nonetheless, dietary advice for older people should build on their existing knowledge and ingrained values. It should provide information useful in daily food selection, and focus on food, not nutrients – the same foods and groups considered appropriate for younger people, with consistent messages as given throughout the population to the other groups.

Attention must also be paid to discovering learning styles in older people. When we teach in schools, the young students are a captive audience resigned to their learning role. Learning by an older adult, however, reflects an effort to meet his or her perceived needs. An older person who cannot afford meat or fruit will not appreciate hearing about the nu-

tritional value of these foods. Likewise, a lactose intolerant individual may not appreciate hearing about the nutritional benefits of dairy products.

Nutrition education should be a positive experience in a non-threatening environment, relaxed and non-competitive, and perhaps even with a social atmosphere or organized around a discussion, which can promote a sharing of ideas and experiences. The social aspect of nutrition education activities should not be overlooked, as many studies since the 1980s have confirmed the relationship in US older adults between increased socialization and reduced mortality in older adults. The messages also need to be practical and achievable.

Need for a Needs Assessment

A needs assessment is essential, because our ability to provide the most effective nutrition education will depend on our success in meeting the needs, both perceived and unperceived, of this vulnerable group. Especially now in Asia, with modernization and urbanization ushering in changes in families that affect the elderly, more and more older persons tend to live separately from their married children, or the children are in charge of the household, and the authority of older persons has diminished compared to previous times. Therefore, the current older adults are the first generation to grow old in an industrialized society. This means that their needs may not be readily apparent to or recognized by their younger family members or, the usually much younger perhaps more affluent and more highly trained(sometimes in the West) generation of nutrition educators who have grown up and are living under different circumstances.

Another stressor currently facing many Asian older adults is the effect of the reforms introduced as a result of Asia's financial downturn. Although the Confucian tradition of filial piety is still regarded as a source of virtue, practically, parents with no money have become a burden, and many older adults live in poverty with little place to turn. In Hong Kong, the highest suicide rates are among older adults. As a result these various social and economic stressors, food security becomes an issue, and the nutrition educator must go to the potential older learners to assess their living situations and food security situation, as well as their interests and preferences for nutrition education. Measuring and monitoring the prevalence of food security and hunger has found in a national US sample that lower income elderly were more likely to have low intakes of energy and nutrients compared to elderly from higher income households(Rose & Oliviera 1997). Other risk factors were single-headed households and low education level. Therefore, it is not only in Asia in which poverty increases risk for malnutrition in elder populations.

Nutrition screening tolls help nutrition educators examine such characteristics known to be associated with nutritional risk in older adults. One such community-based initiative, a collaborative project by the American Dietetics Association, the American Association of Family Physicians, and the National Council on Aging in the US has resulted in a self-administered 10-question nutritional checklist to help identify older persons at risk. Such self-rated measures of hunger and food security have been validated and found useful as indicators among both free-living and institutionalized elderly in the US and are also being adapted for use in other countries. Perhaps in Korea, as part of nutrition education programs, such a nutrition screening instrument for use among the free-living elderly could be developed and validated for the local population.

In Hong Kong, it is estimated the 80% of the poorest 10% of the population are older adults(Hong Kong Council of Social Service and Oxfam). Hui surveyed 275 single living poor elderly in Hong Kong and found that intakes of calcium, iron, vitamins A, B_1, B_2, and B_3 were inadequate(Hui 1997), as well as fruits and dairy. Additionally, diets were monotonous and simple, 20% had no access to refrigeration, and 40% had reheated dinner meals. Another forty percent of the respondents said that if they had an extra couple of hundred dollars to spend, they would buy more food. When ask what kinds of food, they responded 'basic food' as opposed to more expensive food or eating out, their other two choices. On average, they spent 45% of their allowance on their food. She found them to be a nutritionally at risk group. Additionally, there may be a group of "hidden" hungry older adults whose names to not appear on government elderly centre lists.

The use of social marketing as part of needs assessments to develop nutrition education programs has increased. Social marketing helps identify the wants, needs, and values of target audiences, and focus groups with the potential target audience can help discover problems due to disability, lack of transportation, poor hygiene or other situations affecting the nutritional status of the older adults. You may begin focus groups with something simple, such as, with a group of elderly diabetics asking them "Tell me something about your health." Does their response include any information about food, diet or nutrition? Their answers will reveal to you how they rate 'nutrition' in their whole health scheme.

I'll describe an example from Virginia in the US in which four focus groups were used with 35 white and African-American urban and rural low-income Congregate Meal Program participants over 65 years of age(Stewart et al. 1998). These focus groups revealed that their personal health conditions, health conditions of significant others, personal and significant others' food preferences and human and financial resources were the factors that most influenced their dietary practices. Their preferences for food and nutrition education were group discussions, the media, and health professionals. They said that group discussions allowed them to share ideas and opinions, and one said "When you're in a group, it makes it so much more interesting." Currently, they relied on family members, the media, and health professionals, and sometimes pharmacists or grocery store pamphlets. Their topic preferences for programs were for those related to their health conditions to reduce the adverse effects of their health conditions as well as an assortment of other topics. Other information gathered showed that some were at nutritional risk by eating too few fruits, vegetables, and dairy products. In the US, 80% of adults over 65 years suffer from diabetes, hypertension, arthritis, or heart disease, with 35% suffering from three or more of these. Additionally, almost half of them reported that they "didn't always have enough money to buy the food they needed." Moreover, some indicated need of various other resources such as a willingness to prepare food and assist from others, a lack of availability of food items, and lack transportation. Some preferred convenience foods because of lack of food preparation skills. Some recently widowed men said that they needed to learn something about cooking. In Hong Kong, however, we found that some older adults are not very verbal and shy away from tape recorders and organized discussion groups. Sometimes group conflicts prevented their participation in focus groups.

Another needs assessment example from the rural US state of North Dakota is illustrative

of another situation among older adults as it exists in that country. In the US, because many young people migrate to the urban areas, and because the health promotion services are less well developed in the rural areas, a needs assessment among 698 seniors aged 60 through 85 was undertaken to find out more about the rural older adults and their needs for nutrition education. These respondents were divided into two groups, age 60 through 70 and 75 through 85. What they discovered was a previously unknown underlying diversity within the group. They found that the younger group scored higher on positive attitudes of intention, efficacy, and outcome expectation than the older group, and they had more knowledge about fat and salt than the older group. The younger group also had better food inventory on their shelves with respect to milk, cheese, bread, baked goods, vegetables, and legumes, but the older seniors had better meat supplies. These results gave the researchers ideas about how to segment this group so as to better target the needs of the two age groups, given the differences in attitudes and knowledge. It also made them aware of their food choices and attitudes so that they could provide food-specific recommendations to them so that they could implement better eating habits(Fischer et al. 1991).

Need for Evaluation

Although nutrition education activities for older adults are common in the US where they are mandated by law, few have been evaluated(Contento 1995), so to what extent these are successful is not clear. Evaluation is therefore also recommended, particularly when new methods are used, or when work is done with a new group. I will review a few evaluated programs that I found in the literature.

In France, in an effort to prevent osteoporosis, a simple intervention to evaluate the effect of a nutrition education intervention focused on increasing calcium intake was conducted. Free-living literate subjects were taught to record their 7-day dietary intake, and the resulting record was analyzed by a dietitian. Those with less than 800 mg Ca intake daily were shown their results and informed about how to increase their Ca intake by adding more dairy product portions to their diet. Two years later, another 7-day diet record revealed that the intervention group had increased their Ca intake by about 100mg of Ca per day without increasing energy intake, mainly by increasing the amount of milk in their diets, while the control group members' daily Ca intake did not change. This demonstrated that a focused intervention in a literate population could have some positive results. However, whether this modest increase could help reduce the rate of osteoporosis in the population is unknown(Constans et al. 1994).

A health promotion program in the US tried to examine the effectiveness of individualized health assessment and counseling to older adults as compared to individualized health assessment and counseling coupled with a written health plan. One goal of this work was to find out which was the better way to provide the older adults a clearer, and therefore more actionable idea about which preventive actions they should take to improve their health. The written health plan contained specific goals, objectives and instructions detailing methods and time frames set cooperatively with the subject to accomplish behavioral recommendations. One year later the subjects in both groups were examined for new hospitalizations, accidents, surgeries, diagnoses, self-rated health status, health related behaviors, functional limitations, etc, as

well as adherence to the health plan. The treatment group was found to be significantly more adherent to their plans than the members of the control group. Logistic regression to identify independent variables that were predictive of higher compliance with health behavior modification plans indicated that the odds that participants who enrolled in the treatment group would adhere to recommendations were almost three times greater than for participants enrolled in the control group. Other significant predictors of adherence included county of residence, increasing age, and living with others(Fox et al. 1997). The researchers concluded that a personalized, cooperative health promotion with tailored counseling methods and written health plans can be effective in community settings to facilitate behavior change among the low-income US elderly.

In the US, an eight-week nutrition education program focusing on sodium status and health was conducted with four groups in an experimental design(Colson & Green 1992). The groups included hypertensive treatment and hypertensive controls, and normotensive treatment and normotensive control groups. The two treatment groups increased their knowledge, and Calcium intake, but the hypertensive group retained more knowledge in the post-test than the normotensive group. The HT group also experienced a decrease in urinary sodium and dietary sodium, showing that an education program may more positively affect the older adults with a medical need. This is consistent with the earlier described needs assessment in which the respondents in the focus groups said that their personal health conditions(this group's hypertension) strongly affected their eating habits.

As you all know, regular, appropriate exercise has benefits in maintaining and improving functional and cognitive capacity, improving psychosocial outcomes, and delaying age-related changes and adverse effects of chronic diseases. But, many older adults do not exercise and have no intention to do so. Therefore, an exercise program is a valuable complement to a nutrition education program, particularly for urban dwellers who may not obtain regular or adequate amounts of physical activity in their daily lives. A six-month exercise program in the community room of a high-rise apartment complex was held for independent elders in Pennsylvania, USA(Grove & Spier 1999). It was organized by nurses who were healthcare providers. They could therefore, besides chatting with participants, answer their health-related questions as well as encourage them and take pride in their achievements with them. Peer captains were chosen in hopes that these would encourage the exercise groups to continue after the program ended, and a video routine was used to supplement the nurse leadership. Evaluation showed that although the attendance was satisfactory, and the video and nurse leadership were well received, the peer captains did not succeed in fulfilling their goal, because the participants did not want to exercise in their small homes or even in small groups. Nor was the group meeting one month after the program ended.

In another USA program at seven congregate meal sites, which target low income elder adults. After six educational sessions conducted within a three-month time period, nutrition knowledge, attitude, and behavior were reassessed subsequent to initially having been evaluated before the educational session. The six lessons given the 53 participants were on (1) the Food Pyramid, (2) Fats, Saturated Fats and Cholesterol, (3) Sugar and Salt, (4) Fruits and Vegetables, (5) Nutrition and Disease, and (6) Food Shopping, Safety and Storage. Although in the pretest the two groups were

not statistically different, after the program, the knowledge improved in some areas as well as some behaviors. Highly positive responses to the questions assessing the educational sessions were also given(Sharpe et al. 1996). Here it was concluded that the congregate meal sites could be used as effective venues for nutrition education for the low-income elderly. However, attendance rates for the sessions ranged only from about 45 – 60% at each, so improving the low attendance must be overcome. In Hong Kong one of my own students conducted a similar pilot program in one nursing home, and again found although she could improve the nutrition knowledge of the Hong Kong older adults living there, attendance at her short sessions was very low. Characteristics in common of the two programs included (1) short lessons with key messages for each ; (2) use of multiple sensory modalities, with food tasting and foods, and sometimes slides ; (3) use of participatory activities such as games ; and (4) minimal written material used(Ho).

My co-author of this presentation, Ms Wendy Hui, in 1996 conducted an evaluation of the nutrition education situation in Hong Kong among the elder adults at one housing estate in Hong Kong. In Hong Kong, many older adults live clustered in government housing estates. She conducted focus group discussions and individual interviews with some seniors and some of their carers in social welfare department. What she found was that the six leaflets for older adults in current use were out of date, had too much print which was too small, and there was too much technical jargon that the seniors couldn't understand. The classes for seniors were also too full of jargon, not in seniors' language, sometimes with advertising or free samples from sponsoring milk company ; they were not regular, systematic, or evaluated ; and were often held in too large groups, with the sessions often lasting too long. She concluded that we, too, have a lot of work to do in Hong Kong in our efforts with our own elders.

Conclusion

Successful nutrition education for older adults depends on positive needs-based messages and personalized strategies. This is may be difficult to do, as few good examples are available to illustrate these principles. In all rapidly aging societies, innovative methods for nutrition education are needed, as the role of good nutrition is certainly a key to successful aging. For those of you involved most directly in developing new health care policies, don't forget to include nutrition promotion as an important component of community nutrition services for all age groups. For the older adults, nutrition promotion and services aimed to enhance the length and quality of their lives should therefore include (a) the design and widespread implementation of innovative yet systematic strategies capable of meeting the needs of the older adults and attracting and motivating the participation of even the less educated groups, (b) built-in evaluation efforts, (c) means of identifying and assisting those who are nutritionally at risk, and (d) long-term monitoring of the impact of the efforts.

References

Charlton KE(1997) : The nutrient intake of elderly men living alone and their attitudes towards nutrition education. *Journal of Human Nutrition and Dietetics* 10 : 343-52

Chi I(1999) : China and the family unit : implications for employed caregivers. Chi. 11 in Work and caring for the Elderly : International Perspectives, Lecher VM and Neal MB, eds., Taylor and Francis

Colson JS, Green NR(1992) : Effectiveness of a nutrition

education program designed for sodium reduction in hypertensive versus normotensive elderly. *Journal of Nutrition for the Elderly* 11(1/2) : 31-47.

Constans T, Delarue J, Rivol M, Theret V, Lamisse F (1994) : Effects of nutrition education on calcium intake in the elderly. *JADA* 94(4) : 447-448

Contento I(1995) : Nutrition education for older adults. Chapter Ⅶ in *Journal of Nutrition Education* Special Issue on The Effectiveness of Nutrition Education and Implications for Nutrition Education Policy, Programs, and Research : A Review of Research. 25(6) : 339-346

Ferrini R, Edelstein S, Barrett-Connor E(1994) : The association between health beliefs and health behavior change in older adults. *Preventive Medicine* 23 : 1-5

Fischer CA, Crockett SJ, Heller KE, Skauge LH(1991) : Nutrition knowledge, attitudes and practices of older and younger elderly in rural areas. *JADA* 91(11) : 1398-1401

Fox PJ, Breuer W, Wright JA(1997) : Effects of a health promotion program on sustaining health behaviors in older adults. *American Journal of Preventive Medicine* 13 : (4)257-264.

Grove NC, Spier BE(1999) : Motivating the well elderly to exercise. *Journal of Community Health Nursing* 16(3) : 179-89

Haber D : Health Promotion and Aging : Implications for the Health Professions, 2nd edition. New York : Springer, pp.13

Ho WMP(1997) : Healthy Eating Project at Shek Wai Kok Home for the Elderly(1996-97). Thesis submitted to the Chinese University of Hong Kong

Hong Kong Council of Social Service and Oxfam(1996) : Research on expenditure pattern of low expenditure households in Hong Kong. Research on Poverty in Hong Kong Series No 1, December

Hui WH(1997) : Dietary intake among elderly Chinese Comprehensive Social Secure Allowance recipients in Hong Kong. Master's Thesis submitted to The Chinese University of Hong Kong

Lave JR, Ives DG, Traven ND, Kuller LH(1995) : Participation in health promotion programs by the rural elderly. *Am J Prev Med* 11 : 46-53

Rose D, Oliviera V(1997) : Nutrient intakes from food-insufficient households in the United States. *Am J Publ Health* 87(12) : 1956-1961

Sharpe PA, Vaca VL, Sargent RG, White C, Gu J, Corwin SJ(1996) : A nutrition education program for older adults at congregate nutrition sites. *Journal of Nutrition for the Elderly* 16(2) : 19-31

Silvester K, Horwath C(1990) : The nutrition information sources of elderly New Zealanders. *Journal of Nutrition for the Elderly* 10(1) : 45-53

Stewart PL, Brochetti D, Cox RH, Clarke MP(1998) : Low-income elderly adults' needs and preferences for nutrition education. *Journal of Nutrition for the Elderly* 18 : (2)1-20