Pediatric Care

Introduction

Proper dietary care goes together with good health, because a balanced diet is vital to maintain both the quality and quantity of life for the elderly. Those who work in the medical field must understand geriatric food intake, know about treatment and intervention techniques, and be aware of the physiological, social, economical, and cultural issues that influence food and nutrition intake.

Each human being's uniqueness becomes more apparent as one gets older. We age at different rates based on our genetic makeup, lifestyle habits, cognitive ability, and the state of health. Therefore, physiological age does not necessarily coincide with chronological age. Because the elderly are such a diverse group, the nutrient needs of a healthy 80-year-old man living at home with his family are likely to be quite different from those of a female 70-year-old with multiple medical problems living in a nursing home.

Food preferences are influenced by culture, custom, family tradition, religion and income. In addition to lifelong eating habits, other factors that affect food intake are living arrangements, food availability, mental and emotional state, physical changes and limitations, and home-making skills. Food habits formed in childhood can be difficult to modify, but with education and sustained encouragement, elderly people can make healthful lifestyle changes.

Nutritional requirements vary with change in age due to physiological changes that occur within the body. These physiologic changes place older persons at greater risk for malnutrition. Therefore, food and nutrition requirements should to be kept in proper balance in order to benefit the body. Understanding the diagnosis, causes, treatment and intervention for geriatric malnutrition will allow medical professionals to know how to provide optimum healthcare and nutritional guidelines for the elderly.

BACKGROUND AND FACTS

Many older adults are at risk for malnutrition. An evaluation of the Elderly Nutrition Program of the Older Americans Act indicates that 67% to 88% of participants are at moderate to high nutritional risk. These community-based programs are finding serious nutrition-related problems among older adults, especially among the frail and homebound.

Many older adults have two to three diagnosed chronic health conditions; 26% of participants in congregate meal programs and 43% of those who receive home-delivered meals had a hospital or nursing facility stay in the previous year. One

survey found that almost two-thirds of respondents had a weight outside the healthful range and that 18% to 32% had involuntarily gained or lost 10 pounds within the 6 months before the survey.

Geriatric malnutrition is a real problem and a real health risk. Therefore, it must dealt with in a serious and proper manner. Understanding the diagnostic methods, causes, and types of malnutrition in the elderly are the beginning steps. But possessing the knowledge of treatment techniques and dietary intervention as well as educating health care professionals and the general public will be the most crucial.

DIAGNOSIS OF MALNUTRITION - 'SCALES' Protocol

There is still no diagnosis devise that has proven to have good sensitivity and specificity for identifying persons at risk for malnutrition. One screening device based on the acronym 'SCALES' has been used to identify persons at risk, however, it still needs to be validated.

A total score >= 3 indicates that the patient is at risk.

1) Sadness (Depression) – Yasavage's Geriatric Depression Scale consists of a set of questions. After the questions are answered, the score is totaled. Although differing sensitivities and specificities have been obtained from studies, for clinical purposes scores > 5 points are suggestive of depression and warrants a follow-up interview, and scores > 10 almost always indicate depression.

2) Cholesterol Levels - Cholesterol levels <160 mg/dL in nursing home residents predict mortality, mainly because such levels reflect malnutrition.

3) Albumin - Albumin, which has a 21-day half-life, is an excellent measure of protein status. Normal elders should have serum albumin levels > 4 gm/dL; only when a person is recumbent do fluid shifts result in a normal albumin level of 3.5 gm/dL. Albumin levels < 3.2 gm/dL in hospitalized older persons are highly predictive of subsequent mortality.

4) Loss of Weight - Weight loss is the single best factor for predicting persons at risk for malnutrition. A body mass index below 20 kg/m^2 (weight/$height^2$) suggests a problem. Midarm circumference or arm muscle circumference can be useful in following muscle mass changes, especially in persons with fluid retention.

Evaluation of Symptoms Related to Dietary Deficiencies

1) Physical Symptoms:

- Recent significant weight gain or loss

- Loss of appetite, loss of taste or smell
- Pain or discomfort when eating or swallowing
- Sore lips, tongue, or throat
- Vomiting or regurgitation of food
- Burning, pricking, pins and needles, or cramps in the legs
- Swelling of the legs
- Change in bowel habits, diarrhea, blood in the stools
- Dermatitis (rash) not responding to topical medication
- Slow healing of wound, sore, or ulcer
- Bleeding into the skin; Easy bruising; Changes in skin color
- Depression, confusion, loss of memory
- Loss of balance
- Light sensitivity
- Hair loss
- Breathlessness on exertion or at rest
- Any conditions that might increase metabolic needs, such as fever, trauma, burns, infection, or hyperthyroidism
- Increased losses of nutrients through draining fistulas, open wounds, or chronic blood loss
- Chronic diseases, such as diabetes, stroke, hypertension, coronary artery disease, or carcinoma
- Recent major surgery or illness
- GI tract diseases
- Handicapped

- Drug addiction, cigarette addiction, alcoholism

2) Social History

- Inadequate income
- Inadequate knowledge about food and nutrition
- Inability to buy own food
- Lives alone
- Eats meals alone
- Inadequate refrigeration or cooking facilities

3) Diet History

- Meals inadequate for body's needs
- Ill-fitting dentures
- Limited diet
- Lack of meal appeal
- Problems chewing or swallowing
- Cultural or religious limitations on diet
- Frequent meals away from home

Dietary Assessment: Evaluation of Dietary Intake

The purpose of the dietary assessment is to identify an elderly person's eating habits and to estimate the average daily nutrient intake. These techniques can help to diagnose possible malnutrition. Through a variety of methods, information should be obtained on the amount and type of food eaten.

Verbal communication is one dietary assessment method. The elderly person will

be asked a series of questions, such as what type of foods they are eating and how often they eat a particular food: daily, weekly, or times per month. The validity of the information may be affected by the older person's ability to communicate, hear and remember the recent past. Therefore, information obtained from the older person should be confirmed by talking with family members and friends. Physical dietary assessment is another method used. This is done in the elderly person's home and involves checking the pantry and refrigerator to see what food is there, how it is being stored, and whether it is being used. Also, food models may be used so that he/she may guess the approximate portions eaten.

Another method of assessing diet is to have the older adult keep a daily food diary. Because intake may vary from day to day, a 3-day food record may be more accurate than a 24-hour diet recall. However, both the 24-hour recall and 3-day food record reflect the person's current diet, not eating habits established over a long period of time.

CAUSES OF MALNUTRITION - Psychological Causes of Malnutrition

1) Depression - It is one of the most common reversible causes of weight loss in older persons. When depressed, they are more likely to lose weight than depressed younger persons. Some older persons may just stop eating.

2) Loneliness - Loneliness can lessen one's desire to prepare meals and enjoy meals, which can quickly lead to malnutrition and weight loss.

3) Anorexia - The recurrence of anorexia nervosa in older persons who had an episode in their teens is being increasingly recognized. Abnormal attitudes about food intake and body image are not rare in underweight older persons. When these abnormal attitudes are associated with severe weight loss, the condition is called anorexia tardive.

4) Paranoia and Mania - These may also be associated with malnutrition.

5) Dementia - Dementia usually produces malnutrition because the person forgets to eat.

CAUSES OF MALNUTRITION - Other Causes of Malnutrition

1) Food Security - Approximately 8% to 16% of older adults (2.5 to 4.9 million) experience food insecurity; in other words, they do not have access at all times to a nutritionally adequate, culturally compatible diet. Federal programs to combat hunger and food insecurity reach only one third of needy older adults. The Older Americans Act's home-delivered meal program and the US Department of Agriculture's Food Stamp Program reach those with the highest rates of food insecurity. However, they

fail to reach many who do not meet the income guidelines for food stamps or who will not accept aid because of its connotation as welfare. Many may be unaware of, are unable to get to, or are uncomfortable attending a congregate meal program, or no programs exist in the area. Additionally, they may fail to qualify or be placed on long waiting lists for home-delivered meals. To date, older adults have not been a primary focus of hunger advocacy groups, food banks, food pantries, and soup kitchens.

2) Problems with Shopping and Food Preparation - These factors may result in insufficient food being available in the home.

3) Poverty and Income Resources - Poverty is a major cause of low food intake and is a strong indicator of malnutrition risk. Almost 20% of older adults are poor or near-poor. Older women experience nearly twice the poverty rate of older men. Older persons who are likely to be poor are those who live alone or with non-relatives, those from a minority group, those who did not complete high school, or those who are too ill or disabled to work. Even older adults who are not poor may live on a fixed income. As expenses increase, those older adults may opt to reduce their food intake, thereby placing themselves at risk for malnutrition. Elders on fixed incomes may have to choose between filling their drug prescription or buying food.

4) Medical Expenditures - Older adults have major economic uncertainties in terms of health expenditures and longevity. Although the majority has access to health care through Medicare, Medicare does not pay all their health care costs. Access to affordable and continuous health care concerns those approaching retirement as well as Medicare and Medicaid beneficiaries. Third-party payers emphasize use of managed-care delivery systems to contain escalating health care costs for older persons. Therefore, elderly adults may not get proper medical attention for their malnutrition in time to receive treatment for it.

5) Medications - Certain medications can contribute to malnutrition and produce weight loss by causing anorexia (eg, digoxin, fluoxetine, quinidine, hydralazine, vitamin A, psychotropics); causing nausea (eg, antibiotics, theophylline, aspirin); increasing energy metabolism (eg, thyroxine, theophylline); or causing malabsorption (eg, sorbitol vehicle in theophylline elixir, cholestyramine). Also, withdrawal from certain drugs (eg, alcohol, anxiolytics, and psychotropics) may be associated with weight loss.

6) Food Handling, Safety, and Storage - Elderly people are at greater risk than younger people of becoming seriously ill due to improper handling, cooking, and storage of food. Because of age-associated deficits in sight, taste, and smell, they may not notice, for example, that a piece of cheese is moldy or that a jar of tomatoes smells and tastes funny.

TYPES OF MALNUTRITION - Protein-Energy Malnutrition

Protein-energy malnutrition results from a deficient supply or absorption of nutrients or an excessive utilization of nutrients by the body. In addition, protein requirements for older adults exceed current RDA (1.0 to 1.25 vs. 0.8 g/kg body weight, respectively). Morbidity and mortality rates increase with protein-energy malnutrition, low serum levels of albumin and/or thyroid hormones, and hypothermia. Marasmus and kwashiorkor are two forms of protein-energy malnutrition.

Marasmus is a condition of borderline nutritional compensation in which a patient has a marked depletion of muscle mass and fat stores but normal visceral protein and organ function. Because the patient has depleted nutritional reserves, any additional metabolic stress (eg, surgery, infection, or burn) may rapidly lead to kwashiorkor (hypoalbuminemic protein-energy malnutrition).

Characteristically, elderly patients deteriorate to this state more rapidly than young patients. Usually, susceptible elderly patients are underweight, but even those who appear to have ample fat and muscle mass are susceptible if they have a recent history of rapid weight loss. About 16% of elders living in the community consume < 1000 kcal/day, an amount that cannot maintain adequate nutrition. Malnutrition also occurs in 3%-12% of older outpatients, 17%-65% of older persons in acute care hospitals, and 26%-59% of older persons living in long-term care institutions.

TYPES OF MALNUTRITION - Vitamin Deficiencies

Physiologic and functional changes during aging result in changes in nutrient needs. Altered ability to taste and smell, poor oral health, dysphagia, and failure-to-thrive syndrome (i.e., nonspecific symptoms associated with deteriorating mental status and functional ability, social isolation, and decreased food intake) can contribute to decreased nutrient intake, involuntary weight loss, and malnutrition.

Mild vitamin deficiencies are very common in older persons, particularly those in institutions, and have been associated with cognitive impairment, poor wound healing, anemia, bruising, and an increased propensity for developing infections and certain types of cancers. Therefore, it is important to take a multi-vitamin supplement, such as Daily Essentials.

1) Antioxidant Deficiency - The antioxidants a-tocopherol, beta carotene, and ascorbic acid benefits visual capacity and helps prevent cataract formation and macular degeneration.

2) Vitamin A Deficiency - Vitamin A deficiency is rarely a problem in older persons, however, its deficiency is associated with lung cancer. Excess vitamin A should be

avoided because it can produce hypercalcemia, liver dysfunction, and pseudotumor cerebri in the elderly.

3) Vitamin B1 (Thiamine) Deficiency - Thiamine deficiency occurs mainly in alcoholics. Glucose administration can precipitate acute thiamine deficiency and cause delirium, ataxia, and bilateral sixth nerve palsies (Wernicke's syndrome). Thus, thiamine and glucose should always be administered together.

4) Vitamin B2 (Riboflavin) and Vitamin B6 (Pyridoxine) Deficiency - Signs of vitamin B2 deficiency include cheilosis, glossitis, angular stomatitis, seborrheic dermatitis, and a magenta tongue. Signs of vitamin B6 deficiency include sideroblastic anemia.

5) Vitamin B3 (Niacin) Deficiency - Niacin deficiency occurs in older persons who are alcoholics, are receiving isoniazid, or have carcinoid syndrome. Characteristically, the patient develops pellagra, dementia, diarrhea, and constipation.

6) Vitamin B6 (Pyridoxin), Vitamin B12 (Cyanocobalamin) Deficiency - Metabolic and physiologic changes that affect the status of vitamin B12, vitamin B6, and folate may alter behavior and general health, whereas adequate intake of these nutrients prevents some decline in cognitive function associated with aging. Deficiencies of these nutrients, along with insufficient intake of vitamin C and riboflavin, may result in poor memory.

7) Vitamin B12 (Cyanocobalamin) Deficiency - Vitamin B12 deficiency can lead to dementia, megaloblastic anemia, incontinence, and orthostatic hypotension. Up to 5% of persons over age 80 have vitamin B12 deficiency. The most common cause is pernicious anemia, which results from a lack of intrinsic factor. Documenting a vitamin B12 level <200

TYPES OF MALNUTRITION - Mineral and Trace Mineral Deficiencies

Mineral and trace mineral deficiencies are associated with immune dysfunction and many other disorders. Therefore, it is important to take a multi-mineral supplement, such as Daily Essentials.

1) Zinc Deficiency - Zinc deficiency is indicated by plasma zinc levels < 70

TYPES OF MALNUTRITION - Dehydration

Dehydration is a major problem for older adults, especially African-Americans, men, and patients who are very old. It results in death within a year of admission for nearly half of the elderly hospitalized Medicare patients. Dehydration risk increases because of the kidney's decreased ability to concentrate urine, altered thirst sensation,

decreased renin activity and aldosterone secretion, relative renal resistance to vasopressin, changes in functional status, delirium and dementia, medication side effects, and mobility disorders. Fear of incontinence and increased arthritic pain resulting from numerous trips to the toilet may also interfere with consumption of adequate fluid intake.

GERIATRIC NUTRITIONAL NEEDS

The benchmark of nutrient needs for healthy persons is the set of Recommended Dietary Allowance (RDAs) established by the Food and Nutrition Board of the National Academy of Sciences. RDAs have been issued for protein, 11 vitamins, and 7 minerals. These recommendations are for all healthy people over the age of 51.

However, when calculating the nutrient requirements of the elderly, the RDA guidelines have several limitations: 1) They are aimed at preventing nutritional deficiency, not preventing disease. They do not cover nutritional needs that have been altered by disease, stress, chronic use of drugs, etc. 2) RDA guidelines are recommendations for healthy population groups. They do not take into account differences between individuals. 3) RDAs have not been established for all essential nutrients. 4) Diet-drug and food-nutrient interactions were not considered in setting these levels. 5) RDAs for older persons were extrapolated from studies of younger population.

It is important to be made aware of the truth about RDA guidelines for the elderly. The key again is knowledge, because if there is adequate knowledge, geriatric malnutrition can be properly diagnosed and treated. If both the patient and health care professional understand the entire spectrum of nutrition and food care, these RDA guidelines will serve only as a helpful overview of the essential nutrients. Because every person is different, the body's needs are different. And only with proper knowledge can the correct guideline can be prescribed and used to meet specific individual needs.

GERIATRIC NUTRITIONAL NEEDS - Protein

Protein is essential for building and maintaining body tissues. It is a source of amino acids that function in muscles, organs, hormones, the nervous system, and the immune system. If the body is not receiving enough calories it will burn protein for its energy needs. Protein needs are 0.8 - 1.0 g protein/kg body weight for healthy elderly, about 12-14% of total calories, and this amount increases when the body is stressed by injury, infection, surgery, or illness.

GERIATRIC NUTRITIONAL NEEDS - Fat

A small amount of fat is necessary for life. Fats are highly concentrated sources of energy. They transport fat-soluble vitamins (A, D, E, and K), add flavor to food, and enhance its satiety value. Fat digestion is inhibited with aging. Saturated fats are harmful to the body and are solid at room temperature. They are found in butter, cheese, cream, lard, salt pork, meat fat, coconut oil, palm oil, and hydrogenated margarine or shortenings.

Polyunsaturated fats tend to lower blood cholesterol. These oils are liquid at room temperature. Examples of oils high in polyunsaturated fats are corn, cottonseed, safflower, sunflower, sesame, and soybean. The amount of fat per day should be no more than 30% of total calories, and only l0% of calories should come from saturated fat. Dietary cholesterol should be limited to 300 mg or less per day.

GERIATRIC NUTRITIONAL NEEDS - Carbohydrates

The minimum carbohydrate daily intake should be 50-100 g/day. At least 50% of total calories should come from complex carbohydrate sources. Daily recommended fiber intake is 20-35 grams.

GERIATRIC NUTRITIONAL NEEDS - Calories

Calories come from proteins, carbohydrates, and fats. The body's caloric needs are about 1.5 times the basal energy expenditure (BEE). There is a 10% reduction of caloric need between ages 51-75 with an additional 10-15% reduction after age 75 depending on individual activity. Most foods contain calories from more than one source.

- Each gram of Protein = 4 calories
- Each gram of Carbohydrate = 4 calories
- Each gram of Fat = 9 calories

Energy needs decrease with age because lean body mass (LBM) decreases and because the overall level of activity usually decreases. Calorie needs are dependent on activity level, as well as on body composition. Therefore, caloric requirements for a person who is bedridden is less than for someone who is mobile and active.

Exercise helps active older people maintain lean body mass, although lean body mass decreases somewhat even in those who exercise extensively. The higher the LBM, the more a person can eat without gaining weight and the more likely he or she will obtain an adequate supply of all nutrients.

GERIATRIC NUTRITIONAL NEEDS - Vitamins and Minerals

Although older adults need fewer total calories, they have an increased need for certain vitamins and minerals. This increased need must therefore be satisfied with a lower overall intake of food. Thus, it is especially important for the elderly to eat foods rich in nutrients: fruits, vegetables, sea vegetation, whole grains, lean meat, fish, and legumes. Nutrient-poor foods like sweets and alcohol should be limited.

1) Vitamin A Needs Decrease; avoid supplements containing vitamin A

2) Vitamin D Needs Increase; include vitamin D-rich foods, such as fish liver oil, foods fortified with vitamin D, egg, alfalfa, cod liver oil, egg yolk (moderately), fruit, most nuts, oatmeal, salmon, sardine, sweet potato, tuna, vegetable and vegetable oil.

3) Vitamin B12 Needs Increase; eat vitamin B12-rich foods such as egg (moderately), certain soy products (miso, tamari, soy sauce, natto and tempeh), fish, hijiki, kumpo, mackerel, nori, seafood and tofu

4) Folate Needs Decrease; no recommended changes.

5) Chromium Needs Increase; consume foods high in chromium such as brown rice, meat (moderately), whole grain, dried bean, corn, corn oil, mushroom and potato.

6) Zinc Needs Increase; eat foods rich in zinc, such as beef (moderately), egg yolk (moderately), fish, legumes, lima bean, meat, mushroom, peach, pecan, pumpkin seed, sardine, sea cucumber, seafood, seeds, soy lecithin, soybean, sunflower seed, tourla and whole grain.

GERIATRIC NUTRITIONAL NEEDS - Water

Water is an important nutrient that is frequently overlooked. The thirst response decreases with age so the elderly should be encouraged to make a habit of drinking water and other fluids throughout the day. The elderly needs at least 6 to 8 cups (48-64 oz.) of water daily.

DIETARY INTERVENTION - Introduction

Dietary advice is most effective when tailored to the individual's personality, living situation and body's needs, and when offered in small increments. Do not push change too rapidly. Make restrictions of diet as liberal as feasible. The skills used by older adults to reach the later stages of life may serve them better than any changes recommended to them.

Good eating habits are based on moderation and variety. The Daily Food Guide provides a simple plan for everyday eating. It separates food into four groups

according to their nutritional contribution, and it specifies the number of servings necessary to meet nutritional needs. Eating foods from each food group every day will provide the protein, vitamins, minerals and calories needed for a healthful diet.

DIETARY INTERVENTION - Using Nutritional Supplements

Supplements are needed especially if the individual cannot or will not eat enough food to meet nutrient needs. This may be due to poor eating habits, a medical condition, a diet restriction, or food/drug interactions. Doctors and other health professionals should discuss supplement use with their patients and provide appropriate guidelines for their use. Families of patients should be included in these discussions. General supplements recommended for geriatric patients include Daily Essentials, Eye and Liver Essentials, Bone Essentials, 30-Ingredients Super Health Cereal, Immune Strengthening Cereal, Whole Turtle Powder, Ginkgo Biloba, White Ginseng and Herbal Adaptogens. Please consult a healthcare professional first before beginning these or any supplements.

DIETARY INTERVENTION - Consult A Qualified Doctor and Nutritionist

It is strongly encouraged for cancer patients to seek the help and advice of a healthcare provider who has achieved proven methods of success in the area. Geriatric patients are generally weaker and present more physiological imbalances. Therefore, they need to pay special close attention to their bodies and if certain symptoms develop, to approach it directly, effectively and knowledgeably. Our clinic offers quality food and nutrition consultations, seminars, and a PERSONALIZED FOOD MEDICINE manual to help geriatric patients with diet, nutrition and proper life care. We recommend the essential nutrients needed by the individual body as well as educate the patient on proper food care for recovery and healing.

DIETARY INTERVENTION - Proper Healthcare

It is essential for geriatric patients to receive the proper health care, therefore, natural medicine treatments are strongly recommended. Acupuncture, herbal medicine, dietary supplements, and food medicine all help to treat diseases and balance vital internal organ systems. These treatment methods help improve circulation, benefit respiration, nourish the bone, nervous, kidney and bladder systems, strengthen immunity, and improve memory.

DIETARY INTERVENTION - Choosing Foods Low in Fat and Cholesterol

The average American eats between 500-600 mg cholesterol daily. About 35-40% of average daily caloric intake comes from fat. This type of high-fat diet needs to change because it has been linked with cancers of the breast, colon and prostate. A reduced intake of fat helps control weight and lower the risk of heart disease. Because serum cholesterol levels tend to increase with age, choosing low-fat,

low-cholesterol foods is particularly important for the elderly. Broiling, poaching, stir-frying, steaming, are low-fat methods of food preparation. Low density lipoprotein (LDL) sticks to the inside of arteries, impeding blood flow. High density lipoprotein (HDL) removes LDL from the blood. Monounsaturated oils (canola, olive) can help lower LDL and raise HDL. Desirable lipid profile results are total cholesterol level below 200 mg/dl, LDL below 130 mg/dl, HDL above 45 mg/dl. The ratio of total cholesterol to HDL should be less than 4.5.

DIETARY INTERVENTION - Reducing Daily Sodium Intake

The body needs about 500 mg sodium per day (1/4 teaspoons of salt). The average American consumes 4-6 g of sodium daily. High sodium levels can cause high blood pressure and heart disease. A small amount of sea salt may be used in cooking, but no salt should be added to food after it is prepared. For flavor, use vinegar, herbs and spices instead of table salt.

DIETARY INTERVENTION - Increasing the Fiber Content

Fiber is the part of plant food that the body does not digest. It keeps bowel movements regular and prevents constipation. Because of the decrease in GI motility that occurs with aging and the constipating effects of some medications, boosting the fiber content of the diet is particularly important for older adults. The older adult who complains of constipation should be discouraged from overusing laxatives, but instead should be encouraged to eat more fiber and exercise more often.

The recommended daily intake of fiber is 25-35 grams. However, the average American only consumes about 11 grams of fiber daily. Whole grains, wheat bran, fruits, vegetables, legumes, nuts, and seeds are excellent sources of fiber. Fiber-rich foods are an essential part of a well-balanced diet. When increasing fiber in the diet, increase the amount of water too. Remember that moderation is key when increasing fiber content. Adding too much fiber to the diet too quickly can cause bloating, gas, and other uncomfortable symptoms. Eat more fresh fruits and vegetables. Do not peel them. Instead, clean them thoroughly and steam in a small amount of water to preserve fiber and nutrients. Do not overcook them. Eat the skins of potatoes, apples, and other fruits and vegetables. The outer part of these foods contains the most fiber.

Substitute whole-grain breads and cereals for white bread and sugary cereals. Instead of meat, eat more beans (navy, lima, kidney, pinto, and string beans are all high in fiber content and are an excellent source of protein.) Beans can be used in casseroles, soups, stews, and other dishes. Eat fresh fruit, vegetables, and unbuttered air-popped popcorn for high-fiber, low-calorie snacks.

DIETARY INTERVENTION - Increasing Nutrient Intake

The most nutritious meals are of no value if they are not eaten. It is important to know that older adults will eat the food provided to them.

1) Foods served warm (not too hot or too cold) may be more appealing to elders.

2) Having a well-balanced diet does not necessarily mean eating three meals a day. Adequate nutrition can be achieved by eating well-planned small meals throughout the day.

3) Eating is a social event and should be shared with family and friends.

4) Elders should share shopping and cooking duties.

5) The environment can affect one's appetite. Brightly lit, glare-free, uncluttered rooms accented in primary colors enhance eating.

6) Cooking and eating utensils should be lightweight, colorful, and non-breakable.

DIETARY INTERVENTION - Facilitating Weight Control

Though a less serious problem in older persons than protein-energy malnutrition, obesity can impair functional status, increase the risk of pulmonary embolus and heart disease, and aggravate chronic diseases such as diabetes mellitus and hypertension. To lose weight the body must burn more calories than it takes in. Each pound of fat equals 3500 calories. Selecting lower-calorie foods in smaller portions from all the food groups, in conjunction with increasing physical activity, will promote gradual weight loss. A sensible weight reduction is 1-2 pounds or 1% of total body weight per week.

Variety, moderation, portion control, and regular exercise are important in weight reduction and weight control. Diets that eliminate a food group or a nutrient are dangerous. Skipping meals is neither recommended nor effective; small, frequent feedings help the body burn more calories. Exercise increases the metabolic rate, increases or maintains lean body mass, and improves cardiovascular conditioning. Examples of aerobic exercise are walking, biking, swimming, jogging, and dancing. Contrary to common belief, exercise does not increase appetite.

To lose weight and to keep that weight off requires permanent changes in eating and activity habits. Changing long-standing habits demands time, motivation, commitment, and persistence. It also requires patience-just as the excess weight was gained over a period of time, so losing it will take a long time. The closer you are to your ideal weight, the more slowly the pounds will come off.

DIETARY INTERVENTION - Meeting the Nutritional Needs of the Impaired Elderly

A blender or food processor comes in handy for elders with chewing or swallowing problems. Meats and vegetables can be chopped or pureed with a small amount of gravy or broth to achieve the desired consistency. Soft foods, such as tuna, fresh fish, eggs, tofu, spirulina, and soybean spread, are good meat substitutes. Use baby cereal to thicken pureed foods without changing the flavor.

People with physical disabilities may benefit from special feeding accessories, such as 1) non-skid place mats, 2) feeding cuffs that hold eating utensils, 3) plates with wide, curved lips that help keep food on the plate, 4) cups with special lids for sipping, and 5) weighted forks, knives, and spoons with wide handles for easy grasping. With the advance in technology, geriatric patients with physical disabilities will have more and more eating aids to assist in dietary intake. These will be especially beneficial to ensure the consumption of essential nutrients and to prevent malnutrition for the physically impaired.

Geriatric malnutrition is a very real and pertinent issue. It will affect us directly because each one of us will age and possibly come face to face with this health risk. It can affect us indirectly because we all have parents, grandparents, elderly friends, relatives, and loved ones. Therefore, it is important to be educated about geriatric malnutrition and learn how to use this knowledge for prevention and treatment.

With the proper education and knowledge about cause, diagnosis, treatment and intervention, we can all be better prepared. However, there is no promise and no guarantee that there will be an end to this health risk, because there are still new discoveries about health and treatment being made each day. But at least we do not have to be afraid of aging and afraid of this fatal possibility.

Age is not a negative thing, as long as one has good health and a strong body. But the key is to understand how to properly take care of the body, feed the body and balance the body. Often clinically, we encounter patients who do not like being old. They are depressed about their age and some even feel useless and unproductive. We remind them that there is value is age and there is life to be enjoyed as long as the quality of life come together with the quantity. If the body is strong and healthy, age will only be a number.

Therefore, it is imperative to learn about the methods to take care of the body ? about food, nutrition, diet, exercise, lifestyle, treatment, and environment. There are many factors that determine health and wellness and with proper education, we can all be better prepared to diagnose and treat geriatric malnutrition.