



## A REVIEW ON ORAL HEALTH, NUTRITION AND DIETARY COUNSELING FOR GERIATRIC PATIENTS

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### Abstract

Providing nutrition education and counseling to people of different ages and from different backgrounds requires a great deal of skill and a good understanding of diet. It is important to treat people as individuals with unique needs and concerns. Diet is a part of nutrition dealing with the food we eat in its local and systemic aspects; it related to the variety and amount of food that is eaten. As more people live longer and become elderly, there will be an increase in chronic conditions and illnesses that will influence both oral and systemic health. Dietary habits and nutrient intake are important through life, but perhaps are most important for elderly people. A decreased in quantity and quality of food consumption leads to decrease energy and nutrient intake and, subsequently, to malnutrition. Malnutrition in turn is associated with a decrease in functional skills, increased susceptibility to infection and increases the visit to dental clinics and hospitals for both oral and systemic health. Hence this article reveals the aging factors influencing the nutrition and the diet, and nutrition counseling for elder patients.

**Keywords:** Nutrition, Diet, Counseling, Malnutrition.

### Introduction

Today's competitive market leaves no space for the error, but surely the health care market is changing from being primarily a seller's market to buyer's market. The today's mantra is patient centered care. Oral health helps persons to adopt and maintain health practices and lifestyles, advocates environmental changes as needed to facilitate this goal, and conducts professional training and research to the same end. Comprehension of the multifactorial variables in dental disease and their interaction has increased the emphasis now placed on the educational process to assist in achieving desired health outcomes. Health promotion is any combination of educational, organizational, economic, political and environmental supports for behavior conducive to health.

Health promotion refers to actions that are intended either to alter the living environment of persons to improve their health, or to enable and empower individuals to take advantage of preventive procedures or services by reducing or eliminating access barriers. Other action might include making available or removing financial barriers to procedures such as the appropriate use of fluoride supplements, use of dental sealants, supervised removal of dental plaque, and effective referral and follow-up services for individual who need treatment.

### Oral Health

The Oral Health educator must be cognizant of available resources and demographic changes affecting social, economic and health services environments, knowledge of program planning and community organization is essential and skill development in these areas warrants inclusion in the professional preparation of the dentist & dental hygienist. By imparting that knowledge to the children in their care and by reinforcing good daily oral health habits, the oral health of future generations could

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improve dramatically. School based health education and promotion activities are viable ways of reinforcing healthy behaviors.

### **Nutrition and Diet**

Nutrition-related disease is influenced by socio-economic and cultural factors. Many people age successfully without much of variations in dietary status. Good nutrition enhances quality of the life by preventing malnutrition and promoting optimal functioning<sup>1</sup>. Diet is a part of nutrition dealing with the food we eat in its local and systemic aspects; it relates to the variety and amount of food that is eaten. As more people live longer and become elderly, there will be an increase in chronic conditions and illnesses that will influence both oral and systemic health<sup>2</sup>.

Carbohydrates, protein, fat, vitamins, minerals and water are the essential energy yielding nutrients for good health. Energy intake must match energy output. The mean energy intake is about  $2820 \pm 577$  Kcal/d for Indian men and about  $1611 \pm 147$  kcal/d for Indian women as measured by weightment method, although these estimates vary with body size, activity and age. Carbohydrates supply the major part of the energy in a normal diet and supplies 55-75% of total energy. They are found in fruits, cereals, milk, root vegetables and legumes. Protein 0.8g/kg is the desirable recommended protein body weight per day after 50 years of age and contributes 10-15% of total energy. Animal proteins, the protein of a whole egg has a biologic value of almost 100%, beans, cereals, and roots<sup>3</sup>. Fat are concentrated source of energy, especially for people with more energy requirements and supplies 15-30% of total energy. Water needed for adult is 1.0–1.5 ml per kcal of energy expenditure for normal physical activity. Elders need special attention as they have reduced total body water and blunted thirst sensation, and may be consuming diuretics.

Vitamins and minerals, in those vitamins promote growth and assist in maintaining the healthy body. Calcium and iron are the two minerals that deserve serious revive by the dentist. Calcium and phosphorus is the main ingredient for mineralizing substance of bone (calcium phosphate). Other trace elements Cu,

Co, Mn, Zn are also important for normal function. Milk, meat, liver, eggs, butter, whole grain cereals, vegetables and fruits provide the vitamins and minerals.

Intestinal function impairment secondary to illness, disease, or medication can result in food maldigestion and malabsorption. Deficiency of vitamin B<sub>1</sub>, B<sub>2</sub>, niacin, B<sub>6</sub>, B<sub>12</sub>, foliate, pantothenic acid, vitamin C and E is associated with neurological and /or behavioural impairment. Dietary antioxidants (vitamins E, A, and C, zinc and selenium) may help counteract oxidative stress. Psychological factors have greater roles in elder people living alone, physically handicapped, the isolated, those with chronic disease and / or restrictive diets, reduced economic status and the oldest old. Functional disabilities such as arthritis, stroke, vision, or hearing impairment, can affect nutritional status indirectly. The side effects of several drugs consumed by elder's interference with nutrient absorption and utilization and leads to malnutrition. Xerostomia increases the susceptibility to dental caries, periodontal disease, burning or soreness of the mucosa, and difficulties in chewing and swallowing, all of which can adversely affect food selection and contribute to poor nutritional status. The presence of natural teeth and well fitting dentures were associated with higher and more varied nutrition intakes and greater dietary quality<sup>4</sup>.

Poor oral health leads to impaired masticatory function. Whether masticatory function plays a role in food selection is still matter of debate, but impaired masticatory function leads to inadequate masticatory food choice and therefore alter nutrition intake<sup>5</sup>. Periodontal disease also increases with age and may be exacerbated by nutritional deficiencies. The use of drugs with hypo salivary side effects may have detrimental effects on denture bearing tissues and impair complete denture retention. Sense of taste and smell, age related changes in taste and smell may alter food choice and decrease diet quality in some people. Health disorders, medications, oral hygiene, denture use and smoking are the contributing factors. A balanced diet, ideally freshly prepared, with fruit and vegetables as well as food containing starch and protein is the foundation for healthy eating. Some

older people rely on reheated frozen meals and other convenience foods. Frozen and canned foods generally preserve the nutritional value of foods very well. Convenience foods from the supermarket often have high levels of salt, sugar and fat, which risks (inadvertent) excessive calorie intake for the obese. Foods rich in starch and fibre, which are low in fat while being good sources of protein, B vitamins and minerals such as calcium and iron. Lean red meat, pulses, fish, eggs and nuts provide protein, iron, B vitamins, zinc, and magnesium. Oily fish also provide vitamin D. Fruit, especially citrus fruit, green vegetables, peppers, tomatoes and potatoes provide vitamin C, potassium and folate. Bread and breakfast cereals that have added vitamins, are also good sources of folate. Milk, cheese in low fat varieties, provide protein and calcium. Canned fish with bones, such as sardines also provide calcium, other sources of which include green leafy vegetables, such as broccoli and cabbage, soya beans.

The need for exercise and nutritional counseling has increased dramatically recently with the emerging evidence of effectiveness in treating many chronic conditions, both physical and emotional. Most people are not aware of the daily stressors that their bodies endure and therefore do not know how to eliminate certain stressors from their life. For example, caffeine found in coffee, soda, and energy drinks acts as a stimulant, increasing your body's sympathetic tone causing an increase in heart rate, alertness, blood pressure, and possibly pain. However, when the caffeine wears off, there is a period of decreased energy. Also, people who drink caffeinated beverages tend to become mildly dehydrated because it increases the need to urinate by acting as a diuretic. Caffeine can also aggravate heart problems and anxiety disorders and should be avoided in patients with these conditions.

Nicotine is another commonly used substance that has negative affects including increasing the heart rate, blood pressure and stressing the body. Excessive sugar intake and overeating can also raise energy levels in the short term causing large amounts of insulin to be release which increases the fat deposition and eventually causes a lower blood sugar producing a

decrease in energy. Further researchers are scheduled to find out, whether inflammatory condition, like periodontitis or other diseases, can really lead to erectile dysfunction and similar problems.

Periodontitis is a serious dental condition caused by excessive bacterial plaque accumulation around certain area of the teeth. Very often it is accompanied with immuno-inflammatory and other risk factors which seriously damage dental health and can have very hard complication. For example, for many decades, periodontal disease has been one of the leading causes of tooth loss in adults. It is the responsibility of all geriatricians to include assessment of nutritional status as part of the comprehensive geriatric assessment and to be aware of the contributions that both under- and over-nutrition may make to health and functional problems in older people. It is also important to be aware of the important role dieticians play in the management of nutritional problems. Press coverage of nutrition stories tends to be enthusiastic but unbalanced. Geriatricians will be asked about these headline making stories and it is their responsibility to keep abreast of the medical literature in order to be able to give balanced advice

### Conclusion

Dietary habits and nutrient intake are important through life, but perhaps are most important for elderly people. A decreased in quantity and quality of food consumption leads to decrease energy and nutrient intake and subsequently to malnutrition. Oral health, nutrition, dietary counseling to people from different backgrounds required a great deal of skill and a good understanding of diet. It is important to treat people as individuals with unique needs and concerns. For geriatric patients, to maintain natural dentition adequately and denture fit, oral health care is mandatory which may decrease their nutritional risk.

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