Nutritional Considerations For Geriatric Edentulous Patients

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Abstract

Proper nutrition is essential to the maintenance of over all health and condition of oral tissues. Healthy tissues enhance the success of prosthodontic management in the elderly adults. Nutrition helps in maintaining and restoring the masticatory function. A thorough knowledge of diet and nutritional requirements of geriatric patients is imperative to achieve success in prosthodontic rehabilitation. This article summarizes the various factors affecting nutritional status of patients and discusses the possible modifications in dietary pattern.

INTRODUCTION

Diet and nutrition are important factors in the promotion and maintenance of health throughout the entire course of life. The role of diet as determinants of chronic diseases is well established and it hence occupies a prominent position in prevention activities.

The burden of chronic diseases is rapidly increasing worldwide. It has been calculated that, in 2001, chronic diseases contributed approximately 60% of the 56.5 million total reported mortalities in the world and approximately 46%of the global burden of disease. The proportion of the burden of non-communicable diseases is expected to increase to 57% by 2020 [2, 8].

Chronic diseases are largely preventable diseases. Many researches have proved the link of diet to health. Apart from appropriate medical treatment of those with the chronic disease epidemic world wide.

While age, sex and genetic susceptibility are non-modifiable, many of the risk already affected, the public health approach of primary prevention is considered to be the most cost-effective, affordable and sustainable course of action to cope factors are modifiable. Such risk factors include behavioral factors (e.g. diet, physical inactivity, tobacco use, alcohol consumption); biological factors (e.g. dyslipidemia, hypertension, overweight, hyperinsulinaemia) and finally societal factors, which include a complex mixture of interacting socioeconomic, cultural and other environmental parameters. Diet has been known for many years to play a key role as a risk factor for chronic diseases. Traditionally, accepted plant based diets have been swiftly replaced by high-fat, energy-dense diets with a substantial content of animal-based foods.

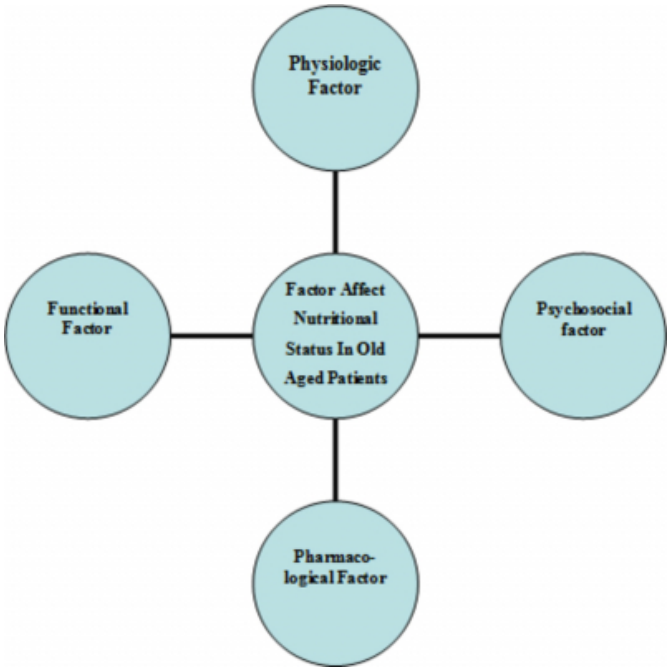
Diet being critical to prevention, is just one risk factor, physical inactivity is now recognized as an increasingly important determinant of health. Diet pattern and physical inactivity, is the result of a progressive shift of lifestyle towards more sedentary patterns, in developing countries. The above related factors are affecting individual in all ages of life [4].

Proper nutrition is essential for maintenance of health and comfort of body in general and oral health in particular. Geriatric patients need partial or complete correction of oral health and masticatory apparatus. Age related medical problems compounded with inability to eat, render the old aged patients to malnutritional deficiencies. Thus an understanding of oral health, nutritional requirements and dietary guidance is essential for through management of elderly patients. The aim of this paper is to promote the health of old age patients in respect of diet, life style, habits and other health affecting factors.

FACTORS AFFECTING NUTRITIONAL STATUS OF ELDER ADULTS

Malnutrition is a common problem in elderly population through out the world. Nutritional problems may result from changes associated with the aging process, diseases or other medical conditions.

Figure 1



PHYSIOLOGIC FACTORS:

Decline in physical and cognitive status often increase with age. Muscle mass is a predictor of strength, mobility, insulin sensitivity and basal metabolic rate thus with decline in body mass, calories need decreases.

1. Changes in ability to absorb and utilize nutrients.
2. Changes in ability to metabolize nutrients.
3. Changes in energy requirements and activity.
4. Effect of medication on appetite nutrient absorption and utilization..

PSYCHOSOCIAL FACTOR:

Psychosocial factors play even greater roles than physical, medical and dental issues in determining the health and well being of elders. Elders particularly at risk include those living alone, the physically handicapped with insufficient care, the isolated, bed ridden geriatric patient with chronic diseased and restrictive diets. Poverty is also a major contribution to malnutrition. Depression, anxiety and loneliness all can undermine the desire to prepare and eat food and have been associated with anorexia, weight loss and increased morbidity and mortality in older people.

FUNCTIONAL FACTORS:

Functional disabilities such as arthritis, stroke, and vision or hearing impairment can affect nutritional status indirectly. The older person may have difficulty getting to and from grocery stores, carrying groceries and preparing meals. Inability to handle eating utensils, see food clearly may all lead to social isolation, poor eating habits and subsequent malnutrition.

PHARMACOLOGICAL FACTORS:

Most elders take several prescribed and over the counter medications daily. These drugs can interact with food and diet, sometimes with serious side effects. Drug can affect the absorption and utilization of some food and nutrients and vice versa. Prescribed drugs are the primary cause of anorexia, nausea, vomiting, gastro intestinal disturbances, xerostomia, taste loss and interference with nutrient absorption and utilization thus leading to malnutrition.

OTHER FACTORS THAT CAN AFFECT DIET AND NUTRITION

The condition of the oral cavity can affect nutrition and vice versa. Oral health status affects the ability and desire to eat. The conditions like xerostomia, sense and smell of taste, oral infectious conditions, dental status and many other factors that can affect diet and nutrition intake.

EFFECT OF DENTURES ON TASTE AND SWALLOWING:

As adults age, they tend to use more stokes and chew longer to prepare food for swallowing. Masticatory ability; however seems to be more of function of denture status than of age and the degree of dental impairment which determines chewing performance and food selection.

The effect of dentures on nutritional status varies greatly among individuals. Some people compensate for decline in masticatory ability by choosing processed or cooked foods rather than fresh and by chewing longer before swallowing; others may eliminate entire food groups from their diets. Intake of vitamin A, fibers and calcium also decline as edentulism increases.

EVALUATION OF DIET AND NUTRITION IN OLDER ADULTS:

Determining the nutrient status of older adults involves an assessment of body composition to identify the presence of obesity and to detect individuals who are significantly underweight. There are method to evaluate every individual and decide their nutritional demand according to their need. This can done by Anthropometric Method. In this method body mass index (BMI) is calculated as weigth in kilograms, divided by square of height in meters.

BMI = Weigth/Heigth^2

A BMI of 21--23 kg/m2 or less is normally an indication of energy malnutrition.

For individuals, the recommendation is to maintain a BMI in the range 18.5--24.9 kg/m^2

To avoid a weight gain and to achieve better health, people of all ages should include a minimum of 30 minutes of physical activity of moderate intensity (such as brisk walking) on most, if not all, days of the week [6].

Questionnaire For Assessing The Nutritional Health Of Older Adults [5]

Figure 2

S.no	Question	Score
1	I have illness or condition that made me change the kind and amount of food I eat	2
2	I eat fewer than two meals per day.	3
3	I eat few fruits, vegetables, or milk products.	2
4	I have three or more glasses of bear, liquor, or wine per day.	2
5	I have tooth or mouth problems that make it hard for me to eat.	2
6	I don't always have enough money to buy the food I need.	4
7	I eat alone most of time.	1
8	I take three or more different prescribed or over-the-counter drugs a day.	1
9	Without wanting to, I have lost or gained 10 pounds in the last six months.	2
10	I am not always able to shop, cook and feed myself.	2

Figure 3

Total Score	Nutritional Risk
0-2	Good nutritional health.
3-5	Moderate nutritional risk.
6 or more	High nutritional risk.

DIET RECOMMENDED FOR THE ELDERLY.

All the nutrients necessary for optimal health in the desirable amounts can be obtained by eating a variety of food in adequate amounts from the following five food groups.

1. Four servings of vegetables and fruits, subdivided in to three categories:

2 servings of good source of vitamin c, such as citrus fruits, salad greens and raw cabbage.
1 serving of a good source of Pro vitamin-A such as deep green and yellow vegetables or fruits.

1 serving of potatoes and other vegetables and fruits. 2. Four servings of enriched breads, cereals and flour products.

2. Four servings of enriched breads, cereals and flour products.

3. Two servings of milk and milk based foods, such as cheese.

4. Two servings of meats, fish, poultry, eggs, dried beans, peas, nuts.

5. Additional miscellaneous foods including fats, oils and sugars, as well as alcohol; the only serving recommendation is for about 2-4 tablespoons of polyunsaturated fats, which supply essential fatty acids.

CONCLUSION

Nutritional counseling and dietary guidance should be carried out at the time of diagnosis and it can be incorporated while treatment planning. Many denture failures are the result of nutritional deficiencies. A healthy balance diet should be incorporated for all elderly patients. Maintenance of good health and nutrition of older patients are necessary for the success of complete denture prosthesis.[9]

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