NUTRITION FOR ELDERLY

Dr.Yossra K.Al-Robaiaay
Assistant professor
FICMS (FM)

- *Geriatrics*: the branch of the medicine dealing with health problems of the elderly i.e. delaying the onset of severely degenerating aspects of aging and treating the disease of the elderly.

- *Gerontology: Broad area of science concerned with all the psychological, social, economic, physiological and medical problem of elderly.*

OLD AGE

- Old age is best defined as age of retirement that is 60 years and above.
- Nutrition for old age is known as *Geriatric Nutrition*.
- Aging brings physiological, psychological and immunological changes which influence the nutritional status.

CHANGES ASSOCIATED WITH AGEING

Physiological Changes

Socio Psychological Changes

Physiological Changes

Loss of Teeth

Decreased Neuromuscular coordination

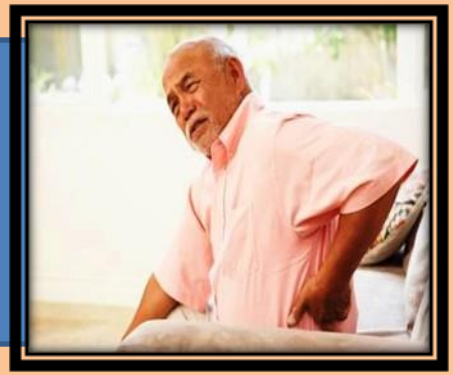
Impaired hearing and poor vision

Physiological Changes

Diminished sense of taste and smell

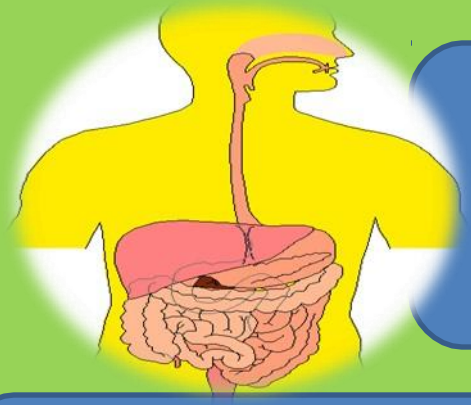
Anorexia

Physical Discomfort



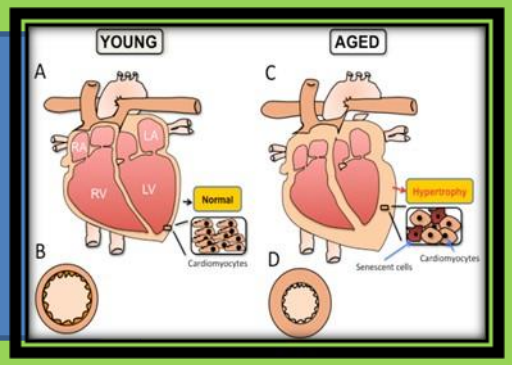
Physiological Changes

Change in Body Composition



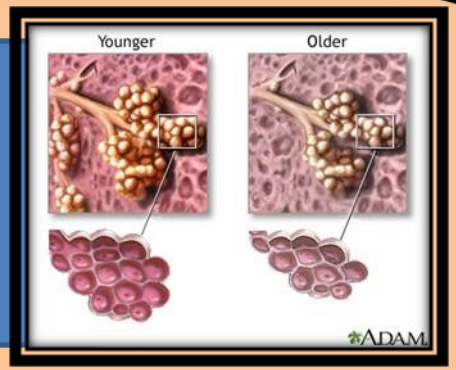
Change in gastro-intestinal tract

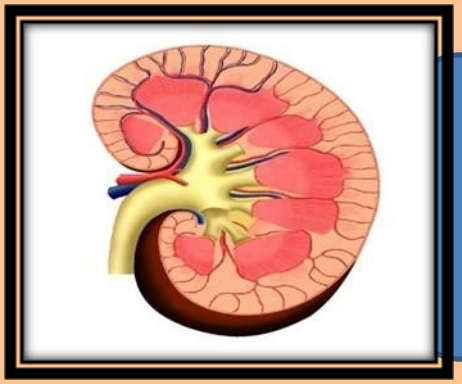
Change in cardiovascular system



Physiological Changes

Change in respiratory function





Change in renal function

Change in skeletal tissue

Socio Psychological Changes

Food habit

Economic aspects

Loneliness

Socio Psychological Changes

Lack of nutritional knowledge

Depression

Anxiety

Socio Psychological Changes

Loss of self-esteem

Loss of independence

NUTRITION RELATED PROBLEMS AMONG ELDERLY

- Obesity
- Under nutrition and malnutrition
- Osteoporosis
- Cardiovascular diseases
- Diabetes
- Cancer

Nutritional Requirement for Elderly

Malnutrition is one of the main health problems of the elderly.

Predisposing Factors:

- Impaired physiological functioning with aging, including digestion, absorption and metabolism.
- Loss of teeth.
- Chronic disease may be associated with anorexia.
- Psychological disturbance may be associated with anorexia, and neglecting or refusing food.

What are the nutrients requirement for elderly?

- Energy
- Protein
- Carbohydrate
- Vitamins
- Minerals

Or we can say needs can be explained as:

✓Energy giving food
✓Body building food
✓Protective food

Energy

- Energy requirement reduces
- Basal metabolic rate decreases (15-20%) due to reduced muscle mass.
- Reduced physical activity
- Increase in fatty tissue.

	Sedentary	Moderate
Male	1900 kcal	2200 kcal
Female	1700kcal	2000 kcal

Carbohydrates

- Requirement reduces.
- **Impaired glucose tolerance** can lead to hypoglycemia, hyperglycemia, and type II diabetes mellitus.
- **Insulin sensitivity** can be enhanced by balance energy intake, weight management and regular physical activity.
- **50%** energy should derive from carbohydrates.

Protein

- Decresed skeletal tissue mass.
- Decrease in **store** of protein is inadequate to meet the need of protein synthesis.
- Intake of **1.0 gm/kg is safe** during old age.
- Protein rich food like milk and curd should be included.

- Due to decrease appetite and poor digestion, old people consume less protein which may lead to:
- **Edema**
- **Anemia**
- **low resistance to infections.**

Lipids

- Dementia and CVD may share risk factors like high intake of dietary total fat.
- Emphasis should be placed on **reducing** the intake of **saturated** fat and choosing **mono**unsaturated or **poly**unsaturated fat sources.
- Sufficient intake of omega 3-fatty acids helps in visual acuity, hair loss, tissue inflammation, improper digestion, poor kidney function and mental depression.

Minerals

Calcium: 800 mg/day

To compensate age related bone loss, to improve calcium balance and to decrease prevalence of fracture.

Ca absorption efficiency decreases, vitamin D level decreases so need more Ca. Total food consumption decrease so Ca supplements needed.

Iron : 30 mg/day

- Deficiency is seen in elderly due to inadequate **iron intake**, blood **loss** due to **chronic** disease or reduced **non-heam** iron absorption.
- Vitamin C deficiency also reduce iron absorption.
- Mild anemia affect health due to less efficient circulation of blood.

Minerals

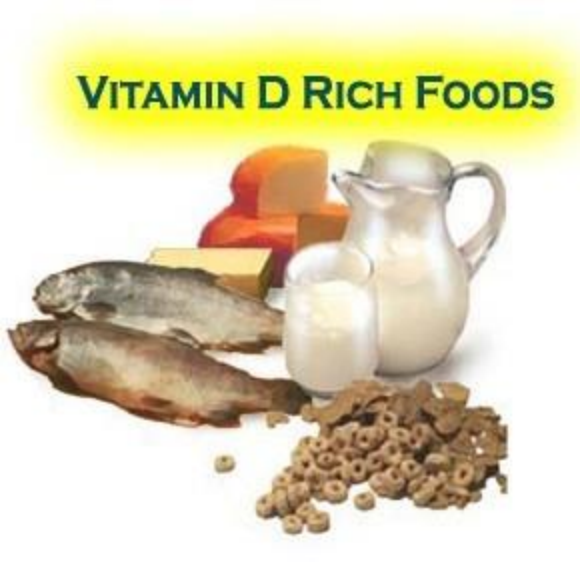
Zinc

- Some features like **delayed wound healing**, decreased **taste sensitivity** and **anorexia** are associated with zinc deficiency.

- But healthy elderly don’t show zinc deficiency.

Vitamins

- **Vitamin D :** elderly are at risk of Vitamin D deficiency due to decreased exposure to sunlight or decrease in renal mass.
- Dietary supplements with calcium and vitamin D **improves bone density** and **prevent** vent **fractures.**
- People with **Parkinson** disease have low vitamin D levels.



Vitamins

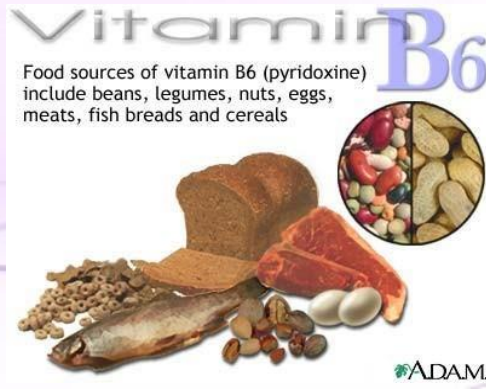
- Stress, smoking, and medication can increase **vitamin c** requirement.
- The antioxidant vitamins such as **vitamin E**, carotinoids and **vitamin c** enhances health of elderly.
- Vitamin C may be protective against cataract at an intake level of **150-250 mg/day.**
- **Vitamin E** is potent nutrient for reducing decline in cellular immunity that occur in elderly.

Vitamin E

- Changes in immune system can be overcome by taking **200 mg** of vitamin E.

Vitamin B6

- Requirement of vitamin **B6 increased** due to atrophic gastritis, interferes with absorption.
- Alcoholic and liver dysfunction are additional risk factor for deficiency of vitamin B.6
- Vitamin B6 have significant role in **immune system**.



Folate

- Alcoholism is a risk factor for **folate** deficiency.
- Severe deficiency of folic acid may result anemia and elevated serum homo-cystiene level which is a risk factor for **cardiac diseases.**
- consumption of folate rich food is needed.
- **Vitamin B12**
- Causes for vitamin **B12** deficiency are **atrophic gastritis** and **bacterial overgrowth**, which decreases absorption and leads to **pernicious anemia**.


Healthy
Eating
Tips for a Healthy Diet

During old age, digestion and absorption power decreases

Problem: Heaviness, fullness in the stomach, even gas formation and acidity

✓**Solution:**

- Avoid fried, fatty, spicy and very sweet foods.
- Very large meals may not be tolerated, so 3-4 small meals may be preferred
- Small nutritious snacks in between meals may help to alleviate acidity and heart burn, diet should therefore be carefully selected

Problem : The pleasure of eating diminishes

✓**Solution:**

- The ability to perceive tastes like sweet and salty diminishes. The taste of food appears **bland**
- Meals should be made more attractive and appealing by including a variety of foods
- Use a variety of seasonings but not very spicy

Problem : Loss of teeth with advancing age leads to several dental problems. Chewing becomes extremely difficult

✓**Solution:**

- Soft, well-cooked foods like soup can be eaten.
- Hard foods like raw vegetables and fruits can be included in the grated, boiled or stewed form.

Problem: Capacity to eat is less

✓**Solution:**

-Select nutrient-dense foods such as fish, lean meat, liver, eggs, soy products and low-fat dairy products, fruits and vegetables, whole-grain cereals, nuts and seeds

Problem: constipation.

✓**Solution:**

-Eat fiber rich foods like whole cereals and pulses, vegetables and fruits

-Consume Soluble fibers in fruits, that are better tolerated

-Drink at least 6-8 glasses of fluids like water, milk, juice, tea, soup etc. daily.

- Try to Include whole fruits instead of juices.

Neurocognitive disorders in elderly and role of nutrition

Dementia

- It is a broad category of brain disease that includes any disease that causes **loss of cognitive ability (the ability to think and reason clearly)**
- It is bad enough to affect a person's daily functioning

Alzheimer’s

The most common form of dementia is **Alzheimer's**

Its most common symptoms are short-term memory loss and word-finding difficulties

Nutrition related Challenges associated with dementia?

Dementias often lead to changes in eating behavior such as:

- Increased or decreased food intake,
- Altered food choices
- Poor appetite
- Disturbances in eating processes.

As the disease progresses, sensory and perceptive loss may affect vision and smell which can hamper recognition of food items

Some people with dementia will lose the ability to judge
e temperature of food. Make sure food is not too hot,
t could burn the person's mouth and result in eating
coming uncomfortable

Environment should be made more stimulating and
cial so that person feel at ease while eating

It is important to keep people involved in preparing food
and drink. This is because it can help to maintain certain
skills, and keep the person interested in food and drink

Regular snacks or small meals are better than set
mealtimes

Role of Specific Nutrients in neurocognitive disorders

Some foods and nutrients are beneficial and help improve neurocognitive performance

A special type of fat : **omega-3 fatty acid** protect against cognitive decline and dementia.

Rich *sources* of omega-3 fatty acid are:

walnut

Olive oil

Flax seeds

Fish

ANTIOXIDANTS

✓ these are protective substances such as vitamin A, C, E which protect the body from free radical damage

✓Why are they important?

Dietary antioxidant intake is **associated with lower prevalence of degenerative diseases and maintenance of physiologic functions in older adults**

Greater antioxidant intake may prevent age-related neurologic dysfunction.

✓ Therefore consumption of foods rich in antioxidants should be encouraged

Berries such as raspberry; strawberry

Nuts such as walnut, almond, peanut, sunflower seeds

Vegetable such as carrot and tomato

Beverages such as green tea and coffee

Some B vitamins like B6, B12 and folate

Higher dietary intake of vitamins B6, B12 and folate are related to greater likelihood of **neurocognitive protection** reducing risk for untoward neurocognitive functioning, including Alzheimer's disease
Deficiency of these nutrients has been linked to neurocognitive disorders such as:

- ❖Depression
- ❖Dementia
- ❖Seizures

Therefore food rich in these nutrients should be made part of daily diet.

Rich Sources of Vitamin B6:

Fish, Meat, Vegetables such as bell peppers, spinach, green peas, yam, broccoli; nuts like peanuts, cashewnuts, hazelnuts; whole grains, bran; legumes such as chickpeas, lentils, soya bean.

Rich Sources of Vitamin B12:

Cheese, yoghurt, egg, liver, fish

Rich Sources of Folate:

Dark green leafy vegetables, fruits, nuts, peas, dairy products, poultry and meat, eggs, seafood, grains


Thank you!!!
GOOD HEALTH
ADDS LIFE TO YEARS