

Early Detection and Prevention of Common Nutrition Disorders in Older people

Sri Lanka Medical Nutrition Association



Nutrition for healthy ageing



Sri Lanka Medical Nutrition Association



Outline

- Goals of Nutrition Therapy
- Symptoms related to nutritional deficiencies in elderly
- Disease specific nutritional concerns
- Mini Nutritional Assessment as Nutrition assessment tool
- Preventive strategies of common nutritional deficiencies



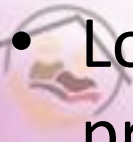
Goals of Nutrition Therapy

1. Provision of sufficient amounts of energy, protein and micronutrients
2. Maintenance or improvement of nutritional status
3. Maintenance or improvement of function, activity and capacity for rehabilitation
4. Maintenance or improvement of quality of life
5. Reduction in morbidity and mortality



Causes of malnutrition in elderly

- Chronic diseases
- Poor oral health
- Polypharmacy
- Loss of taste and olfactory sensation
- Psychosocial factors; social isolation
- Dementia
- Obesity
- Sarcopenia / frailty
- Loss of functional capacity; inability to procure, prepare and consume food



Clinical Signs and Symptoms of Nutritional Deficiencies

System	Symptoms/ signs	Nutritional deficiency
Skin	Dry scaly skin	Zinc/essential fatty acids
	Follicular hyperkeratosis	Vitamin A, C
	Petechiae	Vitamin C, K
	Photosensitive dermatitis	Niacin
	Poor wound healing	Zinc, vitamin C
	Scrotal dermatitis	Riboflavin
Hair	Thin/depigmented	Protein
	Easy pluckability	Protein, zinc
Nails	Transverse depigmentation	Albumin
	Spooned	Iron

Clinical Signs and Symptoms of Nutritional Deficiencies

System	Symptoms/ signs	Nutritional deficiency
Mouth	Bleeding gums	Vitamin C, riboflavin
	Glossitis	Niacin, piridoxin, riboflavin
	Atrophic papillae	Iron
	Hypogeusia	Zinc, vitamin A
Eyes	Night blindness	Vitamin A, zinc
	Conjunctival inflammation	Riboflavin
	Keratomalacia	Vitamin A
Neck	Thyroid enlargement	Iodine
	Parotid enlargement	Protein
Abdomen	Diarrhea	Niacin, folate, vitamin B12
	Hepatomegaly	Protein

Clinical Signs and Symptoms of Nutritional Deficiencies

System	Symptoms/ signs	Nutritional deficiency
Extremities	Bone tenderness	Vitamin D
	Joint pain	Vitamin C
	Muscle tenderness	Thiamine
	Muscle wasting	Protein, selenium vitamin D
	Edema	Protein
Neurological	Ataxia	Vitamin B12
	Tetany	Calcium, magnesium
	Parasthesia	Thiamine, vitamin B12
	Ataxia	Vitamin B12
	Dementia	Vitamin B12, niacin
	Hyporeflexia	Thiamine

Disease Specific Nutritional Issues

Cardiovascular system

Physiological changes

High blood pressure
Thickened blood vessels
Reduced red blood cells

Recommendations

Potassium rich foods
Low salt (1500-2000mg)
Omega 3 rich foods
Physical activity
Stop smoking

Gastrointestinal system

Physiological changes

Reduced GIT secretions
Reduced GIT motility

Recommendations

Fibre rich foods
Adequate hydration
Physical activity

Skeletal system

Physiological changes

Reduced Ca absorption
Increased urinary Ca loss
Reduced skin capacity to
synthesize Vit. D
Increased risk for osteoporosis

Recommendations

Increase calcium and vit. D
intake
Physical exercise

Disease Specific Nutritional Issues

Blood sugar level

Physiological changes
Increased blood sugar level

Recommendation
Avoid excess weight gain
Physical exercise

Taste and smell sensation

Physiological changes
Reduced no; of taste buds
Change in smell

Recommendation
Add different flavors
Zinc rich foods

Vision

Physiological changes
Retinal degeneration
Macular degeneration
cataract

Recommendation
Carotenoids
Vitamin C & E

Sarcopenia

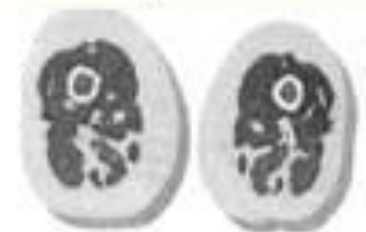
- Decline in skeletal muscle mass, strength and function associated with ageing
- Sarcopenia – hallmark of frailty
- Associated with malnutrition
- **Primary role of nutrition** – adequate provision of energy, protein and essential nutrients and RESISTANT EXERCISE

SARCOPENIA

19-year-old



67-year-old



Nutrition Assessment tool

- Mini Nutritional Assessment is a validated tool to assess malnutrition in elderly

Mini Nutritional Assessment
MNA[®]

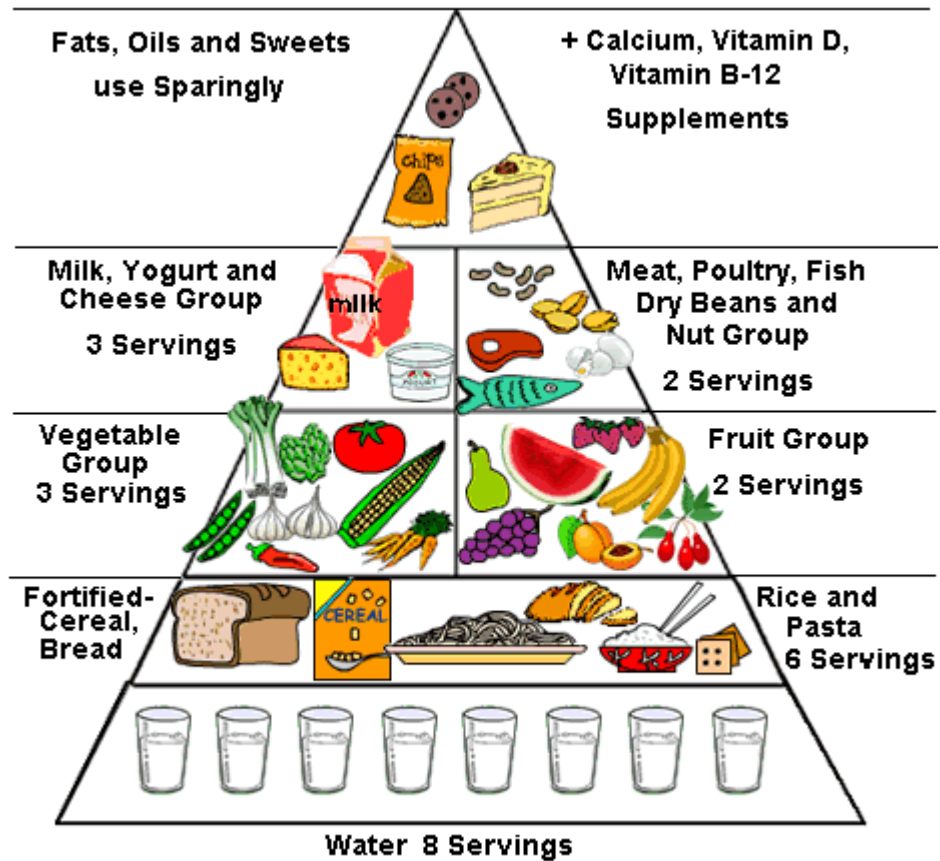
Screening	
A Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties? 0 = severe decrease in food intake 1 = moderate decrease in food intake 2 = no decrease in food intake	<input type="checkbox"/>
B Weight loss during the last 3 months 0 = weight loss greater than 3 kg (6.6 lbs) 1 = does not know 2 = weight loss between 1 and 3 kg (2.2 and 6.6 lbs) 3 = no weight loss	<input type="checkbox"/>
C Mobility 0 = bed or chair bound 1 = able to get out of bed / chair but does not go out 2 = goes out	<input type="checkbox"/>
D Has suffered psychological stress or acute disease in the past 3 months? 0 = yes 2 = no	<input type="checkbox"/>
E Neuropsychological problems 0 = severe dementia or depression 1 = mild dementia 2 = no psychological problems	<input type="checkbox"/>
F1 Body Mass Index (BMI) (weight in kg) / (height in m)² <input type="checkbox"/> 0 = BMI less than 19 1 = BMI 19 to less than 21 2 = BMI 21 to less than 23 3 = BMI 23 or greater	<input type="checkbox"/>
IF BMI IS NOT AVAILABLE, REPLACE QUESTION F1 WITH QUESTION F2. DO NOT ANSWER QUESTION F2 IF QUESTION F1 IS ALREADY COMPLETED.	
F2 Calf circumference (CC) in cm 0 = CC less than 31 3 = CC 31 or greater	<input type="checkbox"/>
Screening score (max. 14 points)	<input type="checkbox"/> <input type="checkbox"/>
12-14 points: <input type="checkbox"/> Normal nutritional status	<input type="button" value="Save"/>
8-11 points: <input type="checkbox"/> At risk of malnutrition	<input type="button" value="Print"/>
0-7 points: <input type="checkbox"/> Malnourished	<input type="button" value="Reset"/>



Nutrient Requirements in Elderly

Nutrient	requirement
Fluid	30ml/kg/day
Energy	20 – 30kcal/kg/day
Protein	1 – 1.2g/kg
Fibre	25 – 35g/day
Vit D	600IU/ day (51 – 70yrs)
	800IU / day (>70yrs)
Calcium	1000mg/day (males 51 – 70 yrs)
	1200mg/day (females > 51yrs and males >70yrs)
Vit B6	1.5mg/day (females)
	1.7mg/day (males)

Food pyramid



Benefits of Physical Activity

- Regular exercise improves skeletal muscle strength and function.
- Resistant exercise and adequate protein intake (1-1.2g/kg/day) is recommended.
- Recommendation : Muscle strengthening exercises on 2 or more days per week



Tips on Healthy Ageing

- Eat an enjoyable and varied diet
 - Watch your weight and stay active
 - Eat plenty of fruit and vegetables
 - Opt for healthier fats
 - Eat plenty of fibre
 - Reduce your salt intake
 - Eat calcium-rich foods
 - Boost B vitamins through a varied diet
 - Keep well hydrated
 - Look after your teeth
 - A little sunshine is good for you
- Go easy on alcohol
 - Don't smoke
 - Get enough sleep
 - Keep your brain stimulated
 - Use it or lose it – keep active!



THANK YOU

