

# DIET PRESCRIPTION

The diet prescription designates the type , amount and frequency of feeding based on the patient's disease process and disease management goals. The prescription may specify a caloric level to be implemented. It may also limit or increase various components of the diet , such as carbohydrates , protein , fat , specific vitamins or minerals , fiber or water.

# ENERGY ALLOWANCES

Appetite regulates body weight with surprising accuracy in most normally active people ; however, it is not always valid or reliable in disease .

Energy needs may be calculated by a variety of methods . When necessary , actual measurement of the basal or resting metabolic rate using a metabolic cart and indirect calorimetry.

A person's energy requirement can be calculated by either 1) calculating the required number of kilocalories per day or 2) calculating the percentage increase over basal metabolic demands.

# PROTEIN ALLOWANCE

The RDA for protein for age is usually considered adequate for previously well nourished who are ambulatory or who require only brief period of hospitalization .

The minimum level of protein needed to maintain nitrogen balance in healthy adults is 0.5 g per kilograms of body weight daily .

In presence of malabsorption or protein loss from burns , ascites , an increase in protein allowances is required.

# MINERALS AND VITAMINS

Appropriate levels of vitamins and minerals for stressed patients are difficult to accurately determine . In times of stress , inadequacies of nutrients maybe countered with mobilization of body stores , decreased losses , increased absorption or improved utilization. Individual responses may vary and true deficiencies with clinical signs and symptoms may take weeks , months or even years to develop.

To determine appropriate levels of vitamins and minerals intake , the following should be considered: 1) requirements for healthy persons, 2) nature of the disease or injury 3)body stores of specific nutrients 4)normal and abnormal losses through the skin , urine or intestinal tract, 5) drug nutrient interactions .

# FLUIDS

A healthy adult at rest who is not perspiring needs 1800t to 2500 ml daily of water to provide for urinary excretion and replace insensible fluid losses .

Additional fluids must be given to replace water lost by excessive perspiration , vomiting, diarrhoea , tube drainage or other conditions marked by increased water loss .

If sufficient water cannot be taken in orally , it must be supplied parentally , usually along with the electrolytes.

# NUTRITION CARE PROCESS

The **Nutrition Care Process (NCP)** is a standardized process for the provision of nutrition care established by the Academy of

Nutrition and Dietetics. Per the Academy the

NCP is a process for identifying, planning for, and meeting nutritional needs. The nutritional needs referred to in this definition

may be of an individual, specific group, or population.

The patient or client is the central focus of the NCP .

The NCP includes four steps that are the responsibility of the RD:

(1) nutrition assessment, (2) **nutrition diagnosis**, (3) nutrition

intervention, and (4) monitoring and evaluation

Nutrition screening and outcomes management are also vital to safe, high-quality nutrition care; however, they are not included as separate steps in the NCP because they are not specific to dietetics practice. Each step of the NCP has corresponding terminology that allows for standardized documentation. This terminology is called the nutrition care process terminology.

# NUTRITION SCREENING

Nutrition screening helps to identify patients or clients who are at nutrition risk and thus should be referred to the RDN for assessment of nutritional status. Nutrition screening can be done in all settings: hospitals, long-term care facilities, schools, food banks, clinics, and hospital settings. When available, population-specific, validated tools should be used for screening.



# NUTRITION ASSESSMENT

Nutrition assessment is needed when the screening tool identifies the patient or client to be at nutritional risk .

The radial in presents a summary of all the aspects of the patient and his or her lifestyle that go into a complete

assessment. Nutrition assessment parameters have specific corresponding terms, which should be used during documentation. These terms are classified into five domains (food/nutrition related history, anthropometrics, biochemical, nutrition-focused physical examination findings, and client history).

# NUTRITION DIAGNOSIS

RDNs evaluate all of the information from the nutrition assessment to determine a nutrition diagnosis. Accurate diagnosis of nutrition problems is guided by critical evaluation of each component of the assessment combined with critical judgment and decision-making skills. The purpose of identifying the presence of a nutrition diagnosis is “to identify and describe a specific nutrition problem that can be improved or resolved through nutrition treatment/nutrition intervention by a food and nutrition professional”. Patients with nutrition diagnoses may be at higher risk for nutrition-related complications, such as increased morbidity, increased length of hospital stay, and infection with or without complications. Nutrition-related complications can lead to a significant increase in costs associated with hospitalization, lending support to the early diagnosis of nutrition problems followed by prompt intervention. It has been recommended that the nutrition diagnosis be documented using the **problem, etiology, signs and symptoms (PES)** format in a simple, clear statement.

# NUTRITION INTERVENTION

Nutrition interventions are the actions taken to treat nutrition problems. Nutrition intervention involves two steps: planning and implementation. Whenever possible, the nutrition intervention should target the etiology identified during the assessment step of NCP. Thus, if the nutrition diagnosis is *Excessive Carbohydrate* and the etiology is *lack of knowledge about high carbohydrate foods*, then the appropriate intervention would be *education on which foods are high in carbohydrate*.

During the planning phase of the nutrition intervention, the RDN, patient or client, and others as needed, collaborate to identify goals and objectives that will signify success of the intervention. Whether in an inpatient or outpatient clinical setting, a significant component of the plan is the patient prescription. A patient's prescription is a detailed description of the nutrient needs of that particular person. Typically, this should include estimated needs for calories, protein, and fluid but also may include nutrients pertinent to the patient's condition such as carbohydrate needs for patients with diabetes, calcium needs for patients with renal disease, or sodium needs for patients with hypertension.

Patient- centred goals and objectives are set, and then implementation begins. Interventions may include food and nutrition therapies, nutrition education, counseling, or coordination of care such as providing referral for financial or food resources. Because the care process is continuous, the initial plan may change as the condition of the patient changes, as new needs are identified, or if the interventions prove to be unsuccessful.

Interventions should be specific; they are the “what, where, when, and how” of the care plan.

Four categories of interventions are within the Nutrition Care Process Terminology: (1) food and nutrient delivery, (2) nutrition education, (3) nutrition counseling, and (4) coordination of nutrition care by a nutrition professional.

# MONITORING AND EVALUATION OF NUTRITION CARE

The fourth step in the NCP involves monitoring and evaluation of the effect of nutrition interventions. This clarifies the effect that the RDN has in the specific setting, whether health care, education, consulting, food services, or research. During this step, the RDN first determines indicators that should be monitored. These indicators should match the signs and symptoms identified during the assessment process. For example, if excessive sodium intake was identified during the assessment, then an evaluation of sodium intake is needed at a designated time for follow-up.

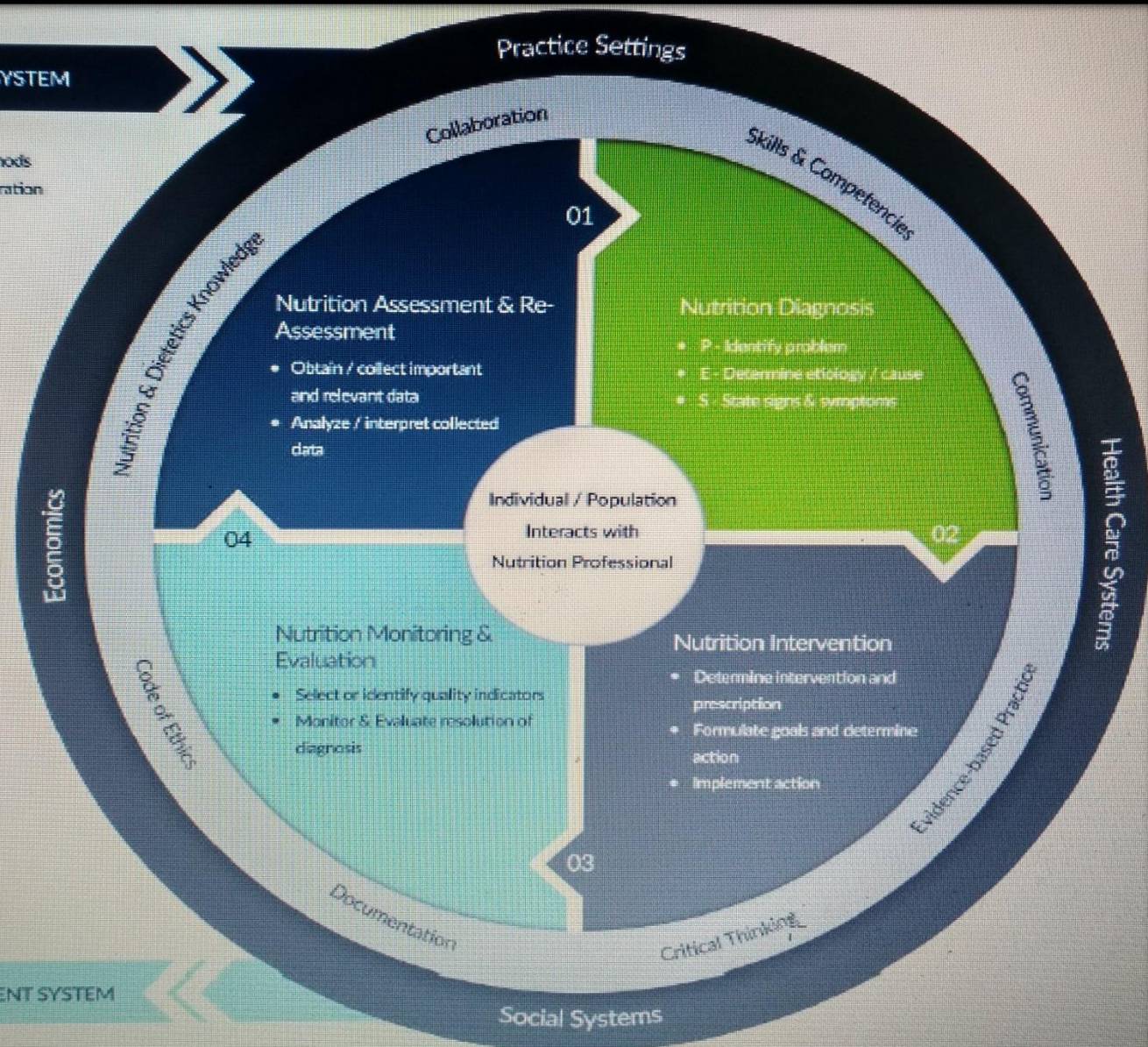
In the clinical setting the goal of nutrition care is to meet the nutritional needs of the patient or client; thus interventions must be monitored and progress toward goals must be evaluated frequently. This ensures that unmet objectives are addressed and care is evaluated and modified in a timely manner.

Evaluation of the monitored indicators provides objective data to demonstrate effectiveness of nutrition interventions, regardless of the setting or focus. If objectives are written in measurable terms, evaluation is relatively easy because a change in the indicator is compared with the status of the indicator before implementation of the nutrition intervention.



## SCREENING & REFERRAL SYSTEM

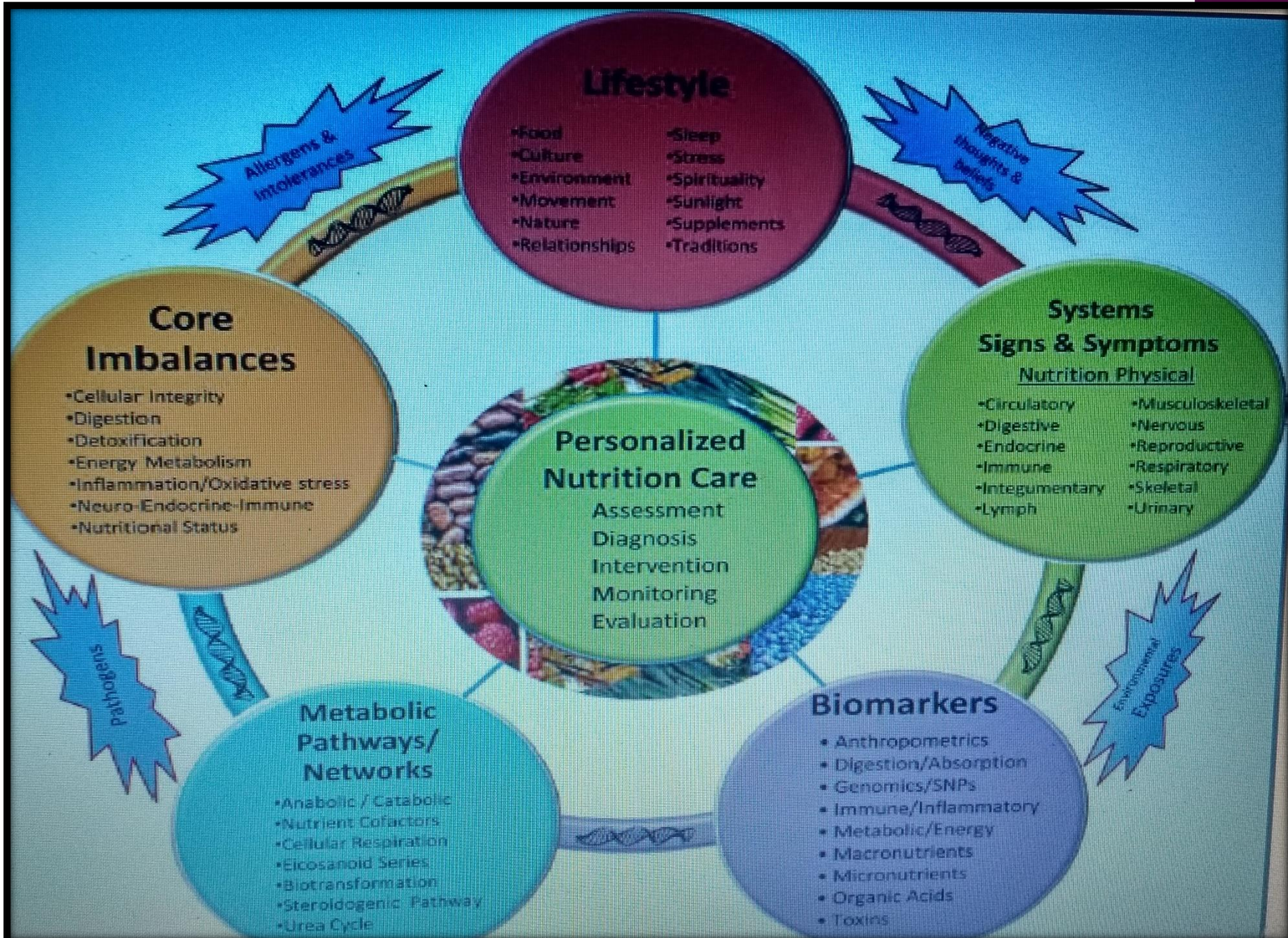
- Identify risk factors
- Use appropriate tools and methods
- Involve interdisciplinary collaboration



## OUTCOMES MANAGEMENT SYSTEM

- Research NCP
- Use aggregated data to conduct research
- Conduct continuous quality improvement
- Calculate and report quality indicators







***NUTRITION IN HOSPITALISED  
PATIENTS***



# DEFINING NUTRITIONAL STATUS

Refers to the degree of **balance** between nutrient intake and nutrient requirement.

**This balance is affected by many factors , including physiological, psychical , developmental, cultural , and economic**

# NUTRITION AND THE HOSPITALIZED PATIENT

- Optimal nutrition in the hospital can facilitate better patient outcomes. Malnutrition in hospitalized patients can lead to poor wound healing, impaired immune function resulting in infectious complications, increased hospital length of stay.
- The prevalence of malnutrition has been reported in up to 50% of hospitalized patients. Early screening for nutritional risk allows for appropriate intervention in the hospital setting, as well as planning for appropriate home services and follow-up for outpatient nutritional care.
- Hospitalists use a multidisciplinary approach to evaluate and address the nutritional needs of hospitalized patients, to improve the nutritional status of hospitalized patients.

# NUTRITION IN HOSPITALIZED PATIENTS

- ◉ Special feeding methods are applied to the hospitalized patients-
- ◉ Enteral nutrition- it can be provided either orally or by tube feeding.
- ◉ Enteral means ‘within or by the way of gastrointestinal tract.’
- ◉ It is given to the individual who has functioning gut and is unable or unwilling to achieve adequate oral intake.
- ◉ It increases mucosal immunity.

## ◉ Oral supplements-

- ◉ Commercially available supplementary sip feeds are used in patients who can drink but in whom appetite is impaired.
- ◉ These feeds typically provide 200 kcal and 2g of nitrogen in each 200 ml carton.
- ◉ If taken in the pre-operative period may enhance post operative recovery and reduce hospital stay.

## ◉ Tube feeding-

- ◉ This is done by passing a tube into the stomach or duodenum through the nose which is called nasogastric feeding or directly by surgical operation known as gastrostomy and jejunostomy feeding.
- ◉ Short term feedings usually are administered via nasogastric, nasoduodenal or nasojejunal tubes.
- ◉ For long term feedings ,a gastrostomy or jejunostomy is usually indicated.

- Types of food-
- **Natural liquid food** - like whole or skim milk, eggs and some form of carbohydrates such as cooked strained cereals, sugar can be given.
- **blenderised feeding** - the ordinary food item which cannot be swallowed are blended to make thin liquid which can pass through nasogastric tube.
- **Elemental diets** - normal foods may be replaced by preparation of protein or amino acids, fats and carbohydrates in easily assimilable forms. For example- complan is the commercial mixture of milk protein casein, carbohydrates and fat.

## Parenteral feeding nutrition -

- In this a sterile , nutrient dense solution is infused intravenously by a peripheral or a central venous access, entirely bypassing the digestive tract.
- Parenteral nutrition was originally developed to nourish those patients who are not capable of digesting and absorbing nutrients.
- Enteral nutrition is cheaper and safer than parental nutrition and may help or preserve the immune function of the intestine.
- Parental nutrition is reserved for patients intolerant of adequate enteral nutrition and those with intestinal failure.

# CAUSES OF MALNUTRITION IN HOSPITALISED PATIENTS

- Many patients are already malnourished at the point of admission, while others become malnourished during their hospital stay.
- Aetiologies include-
- GI disorders, chronic diseases, lower socioeconomic status, psychological disorders, alcohol and drug abuse, older age and lower levels of education.
- The diseases that prevent oral food intake, such as oral cancer, tumours or strictures in the throat or esophagus, stroke and degenerative neurological disorders that result in dysphasia.



- Conditions such as chronic infections and cancer can result in increased metabolic demand and weight loss and poor oral intake.
- Surgical resections of GI tract for cancer and crohn's disease can result in severe maldigestion and malabsorption of nutrients.
- Patients with chronic liver disease and pancreatitis often present with malnutrition.
- For patients who can eat orally, nutritional intake often decreases during hospitalization because-
- Delay or need for several tests and procedures results in prolonged periods without nutrition.

- Patient's appetite usually decrease during illness due to pain, nausea, weakness and altered mood or mental status.
- They can become dissatisfied with repetitive menu cycles, dietary restrictions .

# IDENTIFICATION OF HIGH RISK PATIENTS

- ◉ Nutritional screening is a process that can be initiated early in patient's hospital stay to identify people who may be at risk for malnutrition.
- ◉ Clinical, biochemical, anthropometric, and dietary indicators should be included in the screening programme to ensure optimal effectiveness.
- ◉ Screening programs can be developed with minimal efforts by using existing staff and data readily available in patient's medical record.

- Numerous screening tools have been developed to identify patients at risk of malnutrition.
- Experts of the European Society for Clinical Nutrition and Metabolism (ESPEN) stated that any nutritional screening tool has to be evidence based and validated. It should include at least three elements:
  - • Current BMI
  - • Involuntary recent weight loss
  - • Information of recent food intake

- ◉ **1. Nutritional risk index (NRI)** is a combination of weight loss percentage and serum albumin concentration.
- ◉ NRI is calculated according to the formula:
- ◉  $[1.519 * \text{serum albumin (g/l)}] + [0.417 * (\text{present weight / usual weight} * 100)]$
- ◉ NRI > 100 indicates no., 97.5-100 indicates mild,  $83.5 \leq 97.5$  indicates moderate, and <83.5 indicates severe malnourishment.

## **2. Subjective global assessment** -aimed particularly

- ◉ for patients with medical or surgical gastrointestinal diseases. There are five questions focusing on history of unintentional weight loss over the past 6 months (pattern and amount of it), dietary intake change (relative to normal), gastrointestinal symptoms >2 weeks (nausea, vomiting, diarrhea, anorexia, etc.), functional capacity (energy level: daily activities, bedridden), and metabolic demands of underlying condition.
- ◉ Physical examination explores muscle, fat mass, and the existence of edema. Each feature is noted as normal, mild, moderate, or severe according to clinician's subjective impression. Finally, the clinician awards a subjective grade: A, well nourished; B, moderately malnourished; and C, severely malnourished.

### ⦿ 3. Mini nutritional assessment (MNA),-

- ⦿ aimed for individuals over 65 to assess nutritional status as a part of the standard geriatric evaluation in outpatient settings, nursing homes, and hospitals . It contains six initial questions that work as a screening tool . If the individual is at risk of malnutrition, 12 further questions actually perform a nutritional assessment, divided into anthropometrics, general, dietary, and subjective assessment . Therefore, this tool carries out both a screening and an assessment of the individual.

#### ④ 4. Malnutrition screening tool (MST)-

- ④ is a simple tool with three questions related to unintentional weight loss and reduced appetite . It was developed and validated in medical/surgical adult hospital patients in Australia.
- ④ they selected three questions that had the best sensitivity and specificity at predicting nutritional status. A cutoff score of 2 was established to indicate malnutrition out of a possible higher score of 7.

## 5. Malnutrition universal screening tool (MUST)-

- was developed in 2003 by the Malnutrition Advisory Group of the British Association for Parenteral and Enteral Nutrition (BAPEN). In hospitals, MUST predicts length of hospital stay, type of discharge destination, and mortality. MUST uses unintentional weight loss, BMI, disease severity, and problems with food intake to classify malnutrition risk . score  $\geq 2$  indicates malnutrition risk. This tool recommends an action plan for the treatment of patients at risk of malnutrition, either with local management protocols or with some general pieces of advice.



# NUTRITIONAL ASSESSMENT OF MALNUTRITION

- It is a detailed evaluation of nutritional status and nutritional needs, ideally performed by a dietitian/nutritionist or other trained health-care provider.
- It estimates functional status, diet intake, and body composition compared to normal populations.
- In the specific case of patients with neurological disorders, it is well known that they are at risk of both under nutrition and obesity.

# NUTRITIONAL STATUS CAN BE ASSESSED BY THE FOLLOWING METHODS:

## Direct methods

Anthropometry

Clinical examination

Biophysical or radiological examination

Functional assessment

Laboratory and biochemical estimation

Dietary assessment

## Indirect methods

vital health statistics

Food balance studies

Agricultural data

Use of growth chart

- ◉ Items frequently covered in nutritional assessment are:
- ◉ • **Medical history**, with emphasis on details regarding weight change, diseases with an impact on nutritional status, hospitalizations, surgery, changes in appetite, smell and taste alterations, dysphagia, intestinal dysmotility, alcohol or other addictions, medications, food-drug interactions, level of physical activity, daily living activities, etc.
- ◉ • **Dietary history**, with evaluation of what and how much the person is eating, as well as habits, beliefs, and social conditions, availability and preparation of food; eating independence; cultural, religious, and ethnic food preferences; age-related nutritional issues, etc. Usual tools for dietary assessment are:
  - ◉ -- 24-h recall.
  - ◉ -- Food frequency questionnaire.
  - ◉ -- Food diary.
  - ◉ -- In patients with neuromuscular disorders, it is important to analyze the ability of feeding themselves, how much time it takes to eat each meal, early fatigue, safety of swallowing etc.
- ◉ Social history, economic status, occupation, education level, living and cooking.

- Physical examination, looking for findings of soft-tissue wasting, hydration status, and evidence of vitamin and mineral deficiencies, knowing that most signs indicate more than one nutrient deficiency and that signs are generally not observed unless severe deficiencies exist.
- *Anthropometry:*
- -- Weight: usual, current, adjusted, ideal, and weight variation history
- -- Height: actual or estimated by different methods, as described above
- -- BMI
- -- Skin fold thickness: triceps, biceps. It estimates subcutaneous fat stores to assess total body fat.
- -- Circumferences: arm, calf, and waist. It estimates skeletal muscle mass

- ◉ Body composition: bioimpedance analysis, computed tomography, magnetic resonance, dual-energy X-ray absorptiometry, and air displacement plethysmography.
- ◉ Laboratory parameters:
- ◉ -- Serum proteins, such as albumin, prealbumin, retinol-binding protein. They are synthesized in the liver and behave like negative acute-phase reactants with reduced levels during systemic inflammation. Other reasons for abnormal results are renal and hepatic disease, wounds and burns, cancer, and hydration status. However, in the absence of inflammation or these disorders, a low concentration of these proteins may correlate with malnutrition
- ◉ -- C-reactive protein.
- ◉ -- Cholesterol.
- ◉ -- Electrolytes.

- Evaluation of nutritional requirements to check if current food intake meets the estimated requirements of the patient.
- Hydration status has to be evaluated periodically after the diagnosis of the neurological disease, especially when symptoms and signs of dysphagia appear. Health-care providers have to estimate hydric needs of patients and take the measures to warrant that they receive them in an effective and safe way.



# DIET COUNSELLING



DR JJ

# DEFINITION

- A PROCESS BY WHICH A HEALTH PROFESSIONAL WITH SPECIAL TRAINING IN NUTRITION HELPS PEOPLE MAKE HEALTHY FOOD CHOICES AND FORM HEALTHY EATING HABITS.



# PURPOSE OF DIET COUNSELLING

- ◉ Diet counseling help people to deal with their dietary and nutritional problem .
- ◉ It May Also Help In Prevention Or Treatment Of Nutrition-related Illness.
- ◉ Goal of the counseling is to bring about a desirable change in food behavior of the person.
- ◉ In this process the principle of food and nutritional sciences are translated into practices that are appropriate and acceptable to the client

# CLIENTS AND COUNSELORS

- Nurses and dietitians often think of counseling in terms of patient who required modified diet
- Such counseling is essential to nutritional care of the patient
- Client might be a child in school, obese people, an elder person ,a homemaker and so on. it could be someone who receives such counseling for prevention of diseases ,reduce risk of illness by dietary counseling

# CLIENT RESPONSIBILITY

- ◉ Individual must be an active participant throughout the counseling process
- ◉ For a very young child the parent of course is the principal participation in the counseling process
- ◉ counseling involves the child with the parents as an observing supporter which helps them to implemented the needed changes
- ◉ Client is responsible for making the change.

# ATTRIBUTES OF A SUCCESSFUL COUNSELORS

- ◉ Counselor duty to make every effort to make the client feel comfortable and at ease.
- ◉ He or she shows genuine interest on the client. makes “eye to eye” contact, and inspires confidence and trust.
- ◉ The counselor avoids facial expressions or conversations that conveys idea of impatience intolerance ,pity.
- ◉ The counselor is one who helps but does not threaten or dictate.
- ◉ One can advised on low-cost diets

# STEPS IN THE COUNSELING PROCESS

- ⦿ ASSESMENT
- ⦿ PLANNING
- ⦿ IMPLEMENTATION
- ⦿ EVALUATION

# ASSESSMENT

- This is a process of gathering data and evaluating data as a means of improving clients nutritional practices
- It describes the client nutritional status ,food behavior ,and environment.
- It includes the social ,medical, and dietary history.

# PLANNING

- Reasonable objectives are set towards which the client is willing to work .
- Ways are described to achieve the stated objectives
- A plan is devised for evaluation of the result
- A satisfactory plan applies the principles of food and nutrition sciences within context of the clients social , econmic, psychological, and physical environment.

- Each client should receive an individualized written plan that includes not only a list of objectives to which he or she is committed but also a detailed description
- The plan may be supplemented with printed materials such as the exchange lists or other food lists, guidelines, or food preparation, pamphlets, books, programmed instruction or teaching machines
- Food models, household measuring equipment and rulers are useful for estimating portion sizes
- Printed material should be explained fully to client



# IMPLEMENTATION

- ◉ Understanding and attitude are basic to putting a plan into action
- ◉ Implementation means that the client is able independently to plan his or her own menus, to prepare foods appropriate to the needed changes
- ◉ It includes clients selection of food in the market place with respect to cost, information on labels, and so on
- ◉ Client applies each day to those modifications of food behavior to which he or she is committed

# EVALUATION

- ◉ The progress of a client towards achieving personal goals should be evaluated from time to time by the client and the counselor
- ◉ The evaluation confirms the degree of success by the client
- ◉ Evaluation becomes in effect a reassessment or addition to the initial assessment. this may lead to revision of the plan. if needed and then to changes in implementation

# SOME COUNSELING TIPS

- ◉ **TIMING IS IMPORTANT** :- for patient in a hospital ,the timing of counseling is important
- ◉ Counseling can become a part of daily nutritional care
- ◉ Formal counseling with the patient should be planned well in advance of the time of discharge. for person who are ill and fatigued several brief sessions are helpful

- ◉ **Be an effective listener:-** allow ample time for the client to voice problems and frustration
- ◉ When the client is describing problems the counselor should avoid frequent interruption
- ◉ **Ask questions in a nondirective way:-**ask questions like “what kind of cereal do you eat for breakfast. Suggested to the client that he or she should have eaten breakfast and that it should have include cereals its better to say “tell me when you first ate yesterday” then “what did you eat / and how much did you eat / and how was it prepared

- ◉ **USE APPROPRIATE COMMUNICATION SKILLS :-**  
counseling means talking together with the client ,not lecturing
- ◉ It means conversation at the level of the clients understanding .
- ◉ Any scientific terms should be used with full explanation of this meaning
- ◉ Counseling means answering questions as well as asking them it also showing and doing and learning

# GROUP COUNSELING

- ⦿ Group instruction must be democratic process in which everyone feels free to participate
- ⦿ Talkative patient should not monopolize all of the time
- ⦿ Self conscious ,shy patient should not be feel uncomfortable to respond when not ready
- ⦿ Verbal instruction should be coordinated with visual aids ,including dietary lists,leaflets,posters,food models, and films





Your Diet is  
Your Medicine



THANK YOU