

## **Role of dietitian in nutrition care process**

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### **INTRODUCTION**

Nutrition care process helps to create an institutional culture where all stakeholders value nutrition. Nutrition care process involves many different healthcare practitioners –the physician, dietitian, pharmacist, social worker, case manager and all may be integral in achieving desired outcomes. The main part of nutrition care process is the patient. A team approach helps to ensure the care is coordinated and all team members and the patient are aware of goals and priorities. Coordination, communication and documentation is required for effective nutritional care. Critically ill patients are associated with high rate of mortality and morbidity due to prolonged hospital stay and malnutrition. Prolonged hospital stay may increase the rate of infections. Malnutrition may increase the chance of infection. Nutrition can play a very good role to keep patients healthy.

#### **Nutrition assessment:**

Nutrition assessment and screening is the first step of nutrition care process. Screening is to incorporate in admission assessment. It is a quick method to identify the characteristics associated with nutritional problems. Screening helps to identify nutritional risk or malnourished individuals. A detailed assessment should be done by a dietitian for the critical patients. It interprets data from nutritional screening and incorporates extra information like anthropometry, biochemical, clinical, and dietary information. Nutrition assessment helps to assess patients' energy stores and about positive energy-nitrogen balance.

Malnourished patients and risk patients should recognize separately.

What is malnutrition? Anthropometry is not a key to identify one's health. Body weight measurement will not be possible for critically ill patients. Presence of two or more of the following things may be a sign of malnutrition. 1. Insufficient energy intake 2. Weight loss 3. Loss of muscle mass 4. Loss of subcutaneous fat 5. Fluid accumulation 6. Decreased functional capacity etc. Malnutrition may be undernutrition or overnutrition (over weight). The over weight should be monitored without leaving a chance of oedema.

The visceral protein (serum albumin, prealbumin, transferrin) is another marker for the identification of nutritional status. Patients from high Socio economic status can also be malnourished. Malnutrition may affect any vital organ. Hyperglycemia can be a significant problem in trauma population due to systemic inflammatory response, shown to be associated with increased morbidity and mortality. Hyperglycemia in the trauma patient, as in other critically ill patients, is caused by a hypermetabolic response to stress and seems to be an entity of its own rather than simply a marker.

Nutrition assessment has to give special consideration to stress response and starvation. Systemic inflammatory response is a common problem in critically ill patients. Omega-three fatty acid (found in fish) is considered as the most effective anti-inflammatory agent. It can shorten the hospital stay. Glutamine is a non-essential amino acid because our body makes its own supply. But in certain situations Glutamine can be depleted.

in our body. Severe infection, surgery, trauma etc. are such situations. Such situations we can supply through diet. A typical diet supplies between 1-6 grams /day. Non veg is the best source of Glutamine. In blended feed we have to consider non veg protein. In Supplementary feed ready to use mini sachets should incorporate.

### **Nutrition diagnosis:**

It is unique to the patients nutritional status but should consider medical diagnosis. The contradictions like, high intake of shall be noted.

### **Nutrition intervention and modification in diet:**

Interviewing the patient or bystander is the first step in nutrition intervention. It helps to know about the present eating behaviour and problems of patient. The target plan and goals should communicate the bystander or the patient, if conscious.

Therapeutic diets has to be modified for individual requirement in necessary situation. The consistency of the food or the administration way of the food may change.

In parenteral nutrition the nutrients are delivered intravenously. Parenteral nutrition should administered to patients unable to absorb nutrients from the gastrointestinal tract; those with malignancy undergoing intensive treatment. It renders them unable to eat ,digest, or absorb adequate nutrients

Enteral feeding can reduce the systemic inflammation. In parenteral nutrition a patients required nutrients are delivered intravenously. Parenteral nutrition can meet partial or complete needs and can supply enough substrate to either maintain nutritional status or replete a malnourished patient.

Enteral nutrition can be initiated by hearing the bowel sounds. But it is not necessary. GRV (Gastric Residual Volume )is a marker to check .It should not increase 250-500 cc. It is the volume of fluid remaining in stomach at a point in a time during enteral nutrition feeding. Nurses withdraws the fluid via the feeding tube by ranging from four to eight hours.

Enteral feeding should not be delayed in patients. It should be started within 24 hour of admission .The intake can increase to reach the calculated nutritional goal within 24-48 hour if the patient is stable. Hypocaloric EN nutrition support reduces the length of hospital stay.

Blenderized feeds also expensive, production is time consuming, expert is needed to control nutrient leakage.

Its osmolarity is a reason for diarrhea. Due to high Viscosity it is difficult to make calorie dense feed. But the commercial formulas provide complete and balanced nutrition. It is low to moderate osmolarity. It will be sterile. Commercial formulas will be excellent tube flowing and calorically dense .Blenderized formulas should managed carefully.

There are some special conditions which may affect micronutrient requirements. Some examples are diarrhea, fistula, chyle leak and malabsorption like renal failure, dialysis, geriatric patients alcohol abuse etc.

### **The diet prescription:**

Patients condition, and digestive capacity should be considered in diet prescription. The energy requirement calculated either using Basic Energy Expenditure formula or simply by checking RDA table. A minimum of 2200 calorie should be provided for male patients and for females atleast 1900. The protein intake of critical ill patients should be monitored carefully. Atleast 1.2 g/kg of ideal body weight should be used for the working kidneys. In previously well nourished patients malnutrition occurs rapidly at the cellular level. Minerals and vitamins should be considered .Fluid is another important thing to be consider. Total 2500 ml can be given. But special considerations should be given for water losses like diarrhea, vomiting and tube drainage.

### **Consistency of food:**

The food may be soft, semisolid , liquid or clear.

### **Administration route:**

The another point is the administration route. .Enteral nutrition is the administration of nutrients via the existing gastro tract with the help of a tube.

### **Monitoring:**

It helps to know the actual intake and tolerance of patient. Some points can be considered in nutrition monitoring are oedema, dehydration, fluid intake and output, serum protein, Gastric residual volume, serum electrolyte etc.

### **Monitoring and evaluation:**

Monitoring and evaluation of nutrition care is the last step in nutrition care process. Monitor patients food intake and biological values. Monitor nutritional progress of the patient. As the word says evaluation means ‘to

judge the value of something' Evaluate according to evidence based practice guidelines. The evaluation will be easy if the objectives is written in measurable terms. It is a tool for monitoring progress or plan. Monitoring should be performed daily. Sum of evaluation recorded once in three days.

### Ethical issues:

In case of Dangerously ill patients provide or withhold nutrition is a big question.

The goal of nutrition care process is to provide quality nutrition care through continuous improvement in support of the hospital mission to the patient. Nutritional screening helps to identify nutrition risk for patients. We can set goals according to this evaluation. Continuous monitoring and evaluation helps the patient to improve.

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