Introduction

Malnutrition in the hospitalized patients is common especially in the intensive care setting ,critically ill patient often received less calories than prescribed due to fasting for diagnostic Procedure, mechanical feeding tube problem, gastrointestinal intolerance ,and inaccuracy of the pump, thus many patients lose weight during their hospital stay ***(Preedy , Martin& Waston, 2011).***

Malnutrition in critically ill patients is associated with impaired of immunity, decrease of lean body mass and negative nitrogen balance which leads to delay wound healing and increase risk of infection. Malnutrition also is associated with weakened respiratory muscle, leading to prolonged ventilatory dependency and failing of patient to wean from mechanical ventilator ***(Elliott & Chaboyer, 2012).***

Mechanical ventilation is a basic life therapeutic and supportive intervention used in critically ill patient. It's indicated in patient requiring support to maintain oxygenation or eliminate carbon dioxide, and it's typically applied to patients as a supportive treatment modality for acute respiratory failure with hypercarbia or hypoxemia ***(Johnson, 2012)***

Nutritional support may be given by either enteral or parenteral route or both. There's increasing evidence to suggest that, in the presence of functional gut, nutrition should be administrated by the enteral route, enteral nutrition is preferred mode of nutritional delivery in critically ill patients due to ease of administration, reduce health

care costs, lower rate of sepsis, lack of requirements for central venous access and enhancement of gastrointestinal barrier function with the potential reduction in bacterial translocation ***(Jindal & Shankar, 2011)***

Nutritional support in critically ill patients has three objectives, to preserve lean body mass, to maintain immune function, and to overt metabolic complication. early nutritional support within 24 hours of intensive care unit admission using enteral route is a proactive therapeutic strategy that may reduce disease severity, diminish complications, decrease length of stay in the hospital and improve patient outcome ***(Hess & Gavlin, 2012).***

Total parenteral nutrition (TPN), is the infusion of hypertonic solution of dextrose, vitamins, minerals, electrolytes and essential trace elements directly into the blood stream, through an venous catheter to maintain and restore normal body composition and nutrition in individual who are unable to meet their needs via the gastrointestinal tract.Patient with TPN are subjected to high risks to infection and air embolism ***(Wyckoff & Houghton, 2009).***

Assessment of nutritional status for critically ill patient by four major techniques, these are physical findings, indirect calorimeter, anthropometric measurements, laboratory data and diet history. Anthropometric measures used to assess nutritional status for ventilated patients by different measures such as triceps skin foldness and mid arm muscle circumference, laboratory assessment can be used such as blood urea nitrogen, albumin, hemoglobin, blood gases and

serum electrolytes, additionally measurement of intake and out put fluid balance***(Prins,2010).***

Role of the nurse is daily nutritional assessment by, physical examination, review of nutritional support schedule, review of laboratory results and anthropometric measurements. The nurse should care of nasogastric tube feeding by ensuring accurate placement of tube by x-ray, maintaining tube potency. Providing nasal and oral care are very important . Skin irritation and breakdown at the nares can be prevented by appropriately taping the tube and providing frequent skin care, applying water soluble lubricant to the nostrils provides moisturizing dry skin. Frequency oral hygiene prevents the consequence of dry mouth, monitoring intake and output, to maintain positive fluid balance ***(Williams & Leslie, 2005).***

In parenteral nutrition, nurse must administer total parenteral (TPN) solution at a constant rate , observe for skin rashes, flushing, color changes, or other adverse or allergic type reactions in the site of catheter , follow infection control precautions due to the risk of contamination of the catheter site, or the administration set.Change the tubing and filter if the system slows, flushing or irrigation of the system shall be avoided, assess and document vital signs, glucose monitoring, intake and out put, and routine weights accurately. This is essential to monitoring effectiveness of TPN therapy ***(Landrum,2011).***

Significance of the study:

Malnutrition occurs in 40-50% of hospitalized patients ,especially patients dependent on ventilators in the intensive care unit, have moderate to severe degree of malnutrition, and it has been shown that this degree of malnutrition has a significant negative impact on clinical outcomes in the hospital ***(Racco,2009).***

Nutritional assessment helps the nurse to early identify malnutrition states that prolonged hospital stay, impaired immunological function, impaired ventilatory drive, and weakened respiratory muscles, leading to prolonged ventilatory dependence and increased infectious morbidity and mortality.

In Benha university hospital no research has been done to investigate the nutritional status among artificially ventilated patients, therefore the researcher conducted this study to monitor the nutritional problems that accompanying to nutritional schedule utilized in intensive care unit at Benha university hospital. This effort may be useful to health care professional to achieve proper nutritional support schedule for this category of patients.