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Research Article

**ANALYSIS OF PRESERVING THE QUALITY OF LIFE AND
NUTRITION IN THE ICU**Dr Rana Faisal Shahzad¹, Dr Arslan Saeed², Dr Samar Razia Maqsood Arif³²Islamic International Medical College, Rawalpindi.³Faisalabad Medical University**Article Received:** October 2020**Accepted:** November 2020**Published:** December 2020**Abstract:**

Malnutrition (sometimes called undernutrition) is the state in which a deficiency either of total energy or of protein (or other nutrients) leads to a reduction in body cell mass and organ dysfunction. The main objective of the study is to find the analysis of preserving the quality of life and nutrition in the ICU. This observational study was conducted in Islamic International Medical College, Rawalpindi during January 2020 to June 2020. The data was collected from ICU department of the hospital. This is basically an observational study in which we observe the nutritional status of ICU patients for preserving the quality of life. The data was collected from ICU department of the hospital. In this ICU all types of patients is admitted e.g Injured, Surgery. Special attention should be given to electrolyte status. Any significant decrease in potassium, phosphorus, or magnesium may endanger the patient and should be corrected promptly, coupled with a decrease in energy intake by 50% for the subsequent few days. It is concluded that critically ill patients in the ICU are at significant risk for malnutrition. Feeding protocols not guided by an assessment of resting energy expenditure may result in under- or overfeeding.

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INTRODUCTION:

Malnutrition (sometimes called undernutrition) is the state in which a deficiency either of total energy or of protein (or other nutrients) leads to a reduction in body cell mass and organ dysfunction. It can be the result of any combination of inadequate intake, reduced absorption or increased requirements [1]. Malnutrition is common in hospital patients throughout the world and tends to be an under recognised and under treated problem. It has been estimated that up to 60% of hospital patients in the UK are either malnourished or are at risk of becoming malnourished and figures for developing countries are likely to be even higher. Malnutrition has been shown to be strongly linked to increased length of stay in hospital, increased incidence of complications and increased mortality [2].

The ICU course of patients surviving a critical illness is relatively short, with clinical improvement achieved within 3 to 7 days in the ICU. Notwithstanding the improvement, a subset of patient's progress to a chronic critical illness characterized by low-grade persistent inflammation and protein catabolism, a state referred to as Persistent Inflammatory Catabolism Syndrome (PICS) [3]. The quality of life of PICS patients may be substantially impaired, suffering from a significant decrease in functionality (as evidenced by limited 6 min walk distance) as well as impaired reintegration to pre-hospitalization life [4]. Substantial muscle loss, frailty, and sarcopenia are associated with decreased quality of life at 6 and 12 months post-ICU, as well as an increase in organ failure and mortality. The consistent decrease in-hospital mortality achieved over the past years has yielded a threefold increase in ICU survivors with PICS requiring rehabilitation for decreased functional status. Adequate nutritional support in the ICU setting can alter the post-hospital course of these patients, and recent guidelines have been published outlining recommendations for ICU nutrition in this patient population [5].

Significance of nutrition in critical-care settings cannot be overstated. Critical illness is often associated with a catabolic stress state, and patients demonstrate systemic inflammatory response. Complications such as increased infectious morbidity, multi-organ failure, and prolonged hospitalization are not uncommon [6]. Adequate nutrition intervention has shown to attenuate metabolic response to stress and favorably modulate immune responses. Nutritional support in critically ill patients prevents further metabolic deterioration and loss of lean body mass. Decrease in length of hospital stay, morbidity rate and improvement in patient outcomes have

attracted and valued the use of nutrition support in the critically ill patients [7].

Objectives

The main objective of the study is to find the analysis of preserving the quality of life and nutrition in the ICU.

MATERIAL AND METHODS:

This observational study was conducted in Islamic International Medical College, Rawalpindi during January 2020 to June 2020. The data was collected from ICU department of the hospital. This is basically an observational study in which we observe the nutritional status of ICU patients for preserving the quality of life. Over nutrition and, more commonly, under nutrition are very frequent in the ICU, and the time to reach target energy requirements may be prolonged. The Nutrition Day ICU audit found that it takes 1 week to reach 1500 kcal intake in most ICUs in the world. Under nutrition may be associated with prolonged length of stay and mechanical ventilation, infection, and mortality. With respect to recommendations for optimum calorie intake, Zusman et al. observed that providing between 70 and 100% of measured energy expenditure was associated with improved survival. It is remarkable to note that patients who received in excess of 100% of measured energy requirements showed an increase in mortality.

RESULTS AND DISCUSSION:

The data was collected from ICU department of the hospital. In this ICU all types of patients is admitted e.g Injured, Surgery. Special attention should be given to electrolyte status. Any significant decrease in potassium, phosphorus, or magnesium may endanger the patient and should be corrected promptly, coupled with a decrease in energy intake by 50% for the subsequent few days. Close monitoring of electrolyte status should continue throughout the ICU stay, as clinically significant disturbances can occur, not only at admission in severe malnourished patients, but also during the course of the ICU stay in well-nourished patients. Observational studies have shown that increased protein intake was associated with improved survival [7].

Nutritional support

It can be given through one of three routes:

1. Oral
2. Enteral - via a tube directly into gastrointestinal tract
3. Parenteral - intravenous (via either peripheral or central vein).

If at all possible oral or enteral are the preferred routes for nutritional support. They are far cheaper, more physiological, reduce the risk of peptic ulceration, minimise mucosal atrophy (food in the gut lumen is a potent stimulus for mucosal cell growth) and may reduce translocation of bacteria from the intestinal lumen. Situations previously thought to preclude enteral nutrition, including major gastrointestinal surgery or acute pancreatitis, have now been shown to be best treated with enteral nutrition [8].

Firm recommendations on the use of feeding protocols in critically ill patients are wanting. However, a protocol that incorporates the use of prokinetics, initiates the volume of feeds gradually, and tolerates a higher gastric volume (250 ml), should be considered to optimize delivery of enteral nutrition in critically ill adult patients. In patients who experience feed intolerance (high gastric residues, emesis), prokinetics like metoclopramide must be considered to improve gastric emptying and enhance gut motility. Enteral nutrition must be administered with the head of the bed elevated to 45° to reduce the risk of aspiration and decrease the incidence of ventilator associated pneumonia [9].

Direct administration of feeds to small bowel is recommended when gastric feeding is not feasible, specifically in conditions where there is a higher risk of aspiration (persistent high gastric residues, continuous use of sedatives/neuromuscular blockers) or when at high risk of intolerance to enteral nutrition (moderate to high doses of inotropes/vasopressors). Bowel sounds are only indicative of contractility and may not relate to mucosal integrity, barrier function, or absorptive capacity. Bowel sounds and evidence of bowel function (i.e., passing flatus or stool) are not required for initiation of enteral feeding [10].

Malnutrition is consistently common among ICU patients around the world even today. There is a need to emphasize that nutritional support of critically ill is a primary therapeutic strategy. Increased survival of severely ill patients has been made possible by improvement in the understanding of nutrition requirements and techniques to deliver nutrients. As our understanding of nutrition in the critically ill advances, the trio of physician, dietician, and nursing staff need to be periodically updated on the current recommendations by expert groups to enable better practices and thereby improve outcomes [11].

CONCLUSION:

It is concluded that critically ill patients in the ICU are at significant risk for malnutrition. Feeding protocols not guided by an assessment of resting energy expenditure may result in under- or overfeeding.

Nutrition is now regarded to be of therapeutic benefit and not just an adjunctive or support, in improving patient outcomes. Early, optimum, and adequate nutrition helps improve patients' overall prognosis and at the same time reduce the length of stay. EN is preferable in majority of cases. Scientific nutrition in the form of standard formula feeds should be preferred in majority of ICU patients over blenderized feeds.

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